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# Paper TRADE JOURNAL

REG. U. S. PAT. OFF.

VOLUME 126, No. 6 FEBRUARY 5, 1948

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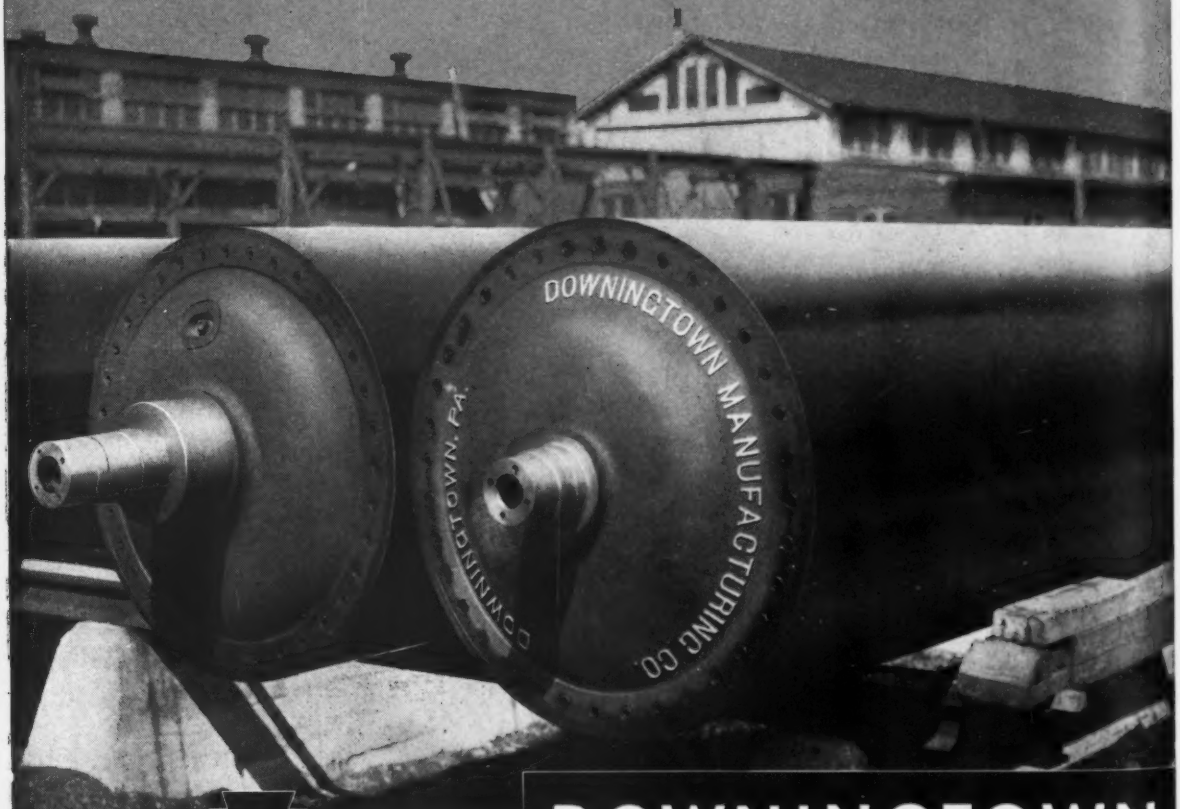


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## CALENDAR OF COMING EVENTS

February 22-27—American Paper & Pulp Association, Annual Convention. The Waldorf Astoria, New York. N. Y.

February 23-26, 1948—Technical Association of the Pulp and Paper Industry, Annual Meeting, Hotel Commodore, New York City.

May 18-20, 1948—American Pulp and Paper Mill Superintendents Association, Annual Meeting, Roosevelt Hotel, New Orleans, La.

June 11-12, 1948—Paper & Twine Association, Annual Convention, French Lick Springs, Indiana.

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Paper TRADE JOURNAL

VOLUME 126, NO. 6 REG. U.S. PAT. OFF. FEBRUARY 5, 1948

## Tinker Sees Future Expanding Soundly

NEW YORK — Beyond all temporary problems created by recent shortages or possible minor interruptions in the future, the paper industry, and all those who are identified with it are due for a steady and impressive growth in their stature. This was the sum of the message that E. W. Tinker, of the American Paper and Pulp Association, delivered late last week at a luncheon of the Baldwin Round Table Club in the Waldorf-Astoria. Something more than two hundred heard the talk, including executives of the Baldwin Paper Company, guests from mills, and others who represent the market for printing papers.

Said Mr. Tinker:

"The last time we discussed the affairs of the pulp and paper industry as related to your business the matter of the adequacy of supplies of paper was of major concern. There still exists, if reports that reach me are correct, shortages in many grades of paper but overall the situation has been much relieved. I do not know just how well the customers of the manufacturers of paper appreciate what has been achieved. With a production record for 1947 exceeding 21 million tons of paper and paperboard, an increase of 9 percent over 1946, I think that you and I can view with some satisfaction the manufacturers' achievement. It has only been possible through the exercise of every managerial and engineering skill that has been developed through our much harassed private enterprise system.

"You may have viewed the past year with some dissatisfaction because you were not able to obtain all the paper you wanted or the type you wanted and when you wanted it and in this respect I can only say that this is a fundamental symptom of good business. Paper distributing agencies as well as the manufacturers of paper have known many long periods when, because of depressed business conditions, we were plagued with surpluses because of dried up demand. I think we should both hope that all of the output of paper mills will continue to be absorbed without too much difficulty. I know this will be the case if business activity continues on a high level and if reasonably prosperous conditions are maintained. However, you and I know that being in the main a

*(Continued on page 26)*

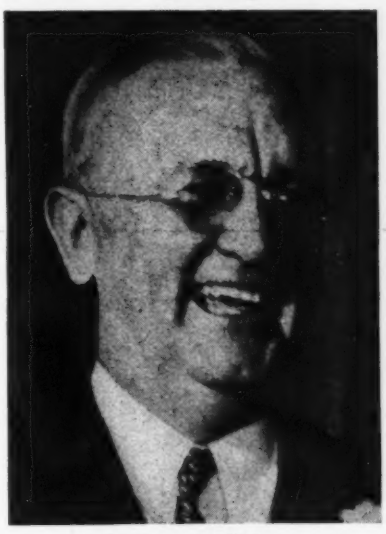
# Canadian P. P. A. Elects Belnap Giffen Heads Technical Group

### Cotton Bonus Resumed On Two-Cent Basis

WASHINGTON — Resumption of the Government's "cotton-for-paper" program was announced by the Department of Agriculture last week.

The program is designed to encourage use of low-grade cotton in manufacture of paper. Under the program, two cents a pound, gross weight, will be paid to "rag-content" paper manufacturers on cotton used within the provisions of the program, in manufacture of paper, or in paper manufacturing processes.

A maximum of ten million pounds of cotton may be used under this program. The two-cents rate, however, is only half the rate paid under the program that terminated last September, and the quantity of cotton allotted is only a fifth, while the maximum expenditure is only a tenth of that authorized in the preceding one.



THOMAS B. McCABE

President of the Scott Paper Company who late last week took a forward step in a career of distinguished public service when he was nominated by the President to be a member of the Federal Reserve Board, with a view to becoming its chairman when he assumes his place on the Board.

MONTREAL—Canada's pulp and paper industry paused here last week to take stock of its present position, to examine its probable future, and to make plans for its own contribution to industrial advancement. The occasion was the annual convention of the Canadian Pulp and Paper Association, and of its technical and woodlands sections. It was voted the most successful convention in many years.

L. J. Belnap, Consolidated Paper Corporation, was elected chairman of the executive board of the Canadian Pulp and Paper Association at the annual meeting. S. L. de Carteret, Canadian International Paper Company, 1947 chairman, and Aubrey Crabtree, Fraser Companies, 1946 chairman, were named vice-chairmen.

C. R. Whitehead, Consolidated Paper Corporation, and B. R. Cancell, Powell River Company, were elected honorary vice-chairmen.

Other members of the Executive Board are: D. W. Ambridge, Abitibi Power and Paper Co.; George W. Brown, Gair Company, Canada, Ltd.; Wentworth Brown, Brown Corp.; George L. Carruthers, Interlake Tissue Mills Co.; Paul E. Cooper, Pacific Mills; Harold Foley, Powell River Co.; P. M. Fox, St. Lawrence Paper Mills Co.; G. Gordon Gale, The E. B. Eddy Co.; R. A. Hayward, KVP Co.; C. H. L. Jones, Price Brothers & Co.; R. P. Kernan, Donnacona Paper Co.; E. M. Little, Anglo-Canadian Pulp and Paper Mills; A. Barnet Maclaren, The James Maclaren Co.; J. R. W. McLernon, Dryden Paper Co.; F. G. Robinson, Riordon Sales Corp.; J. Pierre Rolland, Rolland Paper Co.; Hon. W. Earl Rowe, The Great Lakes Paper Co.; C. H. Sage, Spruce Falls Power and Paper Co.; A. A. Schmon, Ontario Paper Co.; E. Howard Smith, Howard Smith Paper Mills; John Stevens, Jr., Marathon Corp.; R. L. Weldon, Bathurst Power and Paper Co.

Of every dollar earned last year by the pulp and paper industry, 38 cents was paid out for labor, taxes accounted for 12 cents, dividends came to 3.9 cents and 6.7 cents was held in company funds as a "surplus," R. M. Fowler said in his annual report as presi-

*(Continued on page 20)*

## St. Regis Promotes La Fave to Pensacola

WATERTOWN, N. Y.—Francis G. La Fave, branch manager of the local Taggart Corporation multiwall bag plant of the St. Regis Paper Company on West Main street, has been transferred to the St. Regis Paper Company's new bag plant at Pensacola, Fla. Mr. La Fave, who plans to leave for Pensacola about February 15, will be the head of the sugar bag division of the new plant and will assist in the plant's operations in the manufacture of sugar bags. He will remain there at least a year.

His successor will be Budd E. Simonton, branch manager of the Taggart corporation in Oswego, whom Mr. La Fave succeeded as manager here a year and a half ago when Mr. Simonton was transferred to Oswego.

Mr. La Fave was honored at a farewell dinner given by employes of the local plant at the Brownville Hotel. Speakers included Willard E. Hahn, production manager of all St. Regis Company bag plants, and Mr. Simonton. About 150 persons attended the dinner. William J. Haley, Sr., president of Union Local No. 6, Pulp & Sulphite Division, A. F. of L., and Ralph Reed were co-chairmen of the committee in charge of the dinner arrangements.

Mr. LaFave has been employed at the local Taggart plant for nearly 13 years, starting in 1935 as pressman in the bag-printing division of the plant. Gaining steady promotion, he became night superintendent of the plant, a post which he held for about a year before becoming plant manager. He acted ah manager from October, 1946, to last July being appointed to that position to succeed Mr. Simonton.

Mr. La Fave was educated in the local public schools, is a graduate of the Watertown High school and for about a year was a student at Clarkson college, Potsdam. Active as an athlete, he played fullback on the local high school and Clarkson college football teams. Later he also played on the Red and Black eleven and other semi-professional football teams.

### Hammermill Names Jackson To Succeed Dr. Johnsen

ERIE, Pa.—Dr. Donald T. Jackson has been appointed director of the Hammermill Paper Company Laboratories. He succeeds the late Dr. Bjarne Johnsen.

The new director of the Hammermill Laboratories joined the Hammermill organization in 1933 as a research chemist. He has been assistant director of the Laboratories since 1945.

Dr. Jackson is a graduate of Montana State College and has a Ph.D. degree from the University of Pittsburgh. Prior to joining the Hammermill organization, he taught chemistry at the University of Pittsburgh.

DR. M. N. DAVIS

## Kimberly-Clark Appoints Davis

NEENAH, Wis. — Kimberly-Clark Corporation has appointed Dr. M. N. Davis, Appleton, as associate technical director. He has been superintendent of the physics research laboratory since 1937.

Dr. Davis will assist in the operation of the technical department, with particular emphasis on scientific phases of the work while continuing in his present capacity as head of physics research. He has been associated with Kimberly-Clark since 1929, when he became the first fulltime physicist employed in the paper industry.

After he took his A.B. degree at Milton college in 1924, he completed work for his doctor's in physics at the University of Wisconsin in 1929. He served as group leader in applied physics at Kimberly-Clark until a separate physics research laboratory was set up in 1937, which he headed.

His work has included application to paper manufacture of fields of electronics photometry, acoustics, applied mechanics, hydrodynamics, heat transfer and rheology. He is a member of the American Physical Society, Optical Society of America, American Institute of Physics, TAPPI, Gamma Alpha and Sigma Xi.

### Young Again Heads Atlas Tag

NEENAH, Wis.—Irvin L. Young, Chicago, was renamed president of the Atlas Tag company at the annual stockholders meeting recently.

Also reelected were Harold W. Graverson, Neenah, vice-president; Allan B. Adams, Menasha, secretary, and Frank B. Schreiber, Neenah, treasurer. D. B. Parsons, Chicago, head of the company's sales office there, was named vice-president. Graverson remains as resident manager and Schreiber as plant superintendent.

## Neenah Names Hardt As Sales Manager

NEENAH, Wis.—Colonel Dan Hardt was elected sales manager of the Neenah Paper Company at a meeting of the directors January 26. Fred O. Leech was chosen assistant sales-manager.

Colonel Hardt, who has a record of 20 years with the Neenah Paper Company, served five years with the United States army, leaving Neenah in 1940 for training in national guard and reserve officer training camps in the south. He later became attached to the transportation division and headed that department in the Sixth Service Command with headquarters at Chicago. He was sent to the Philippines to set up transportation facilities around Manila after V-J day.

At present Colonel Hardt is Commander of the 426th Infantry Regiment, 32nd Division, Wisconsin National Guard.

Leech joined Neenah Paper Company in July 1937. He served for about three years in the United States Coast Guard, holding the rank of lieutenant.

### Westinghouse Advances Weatherbolt

PITTSBURGH, Pa.—J. E. Payne, industry sales manager for the Westinghouse Electric Corporation, announces the appointment of F. D. Weatherholt as assistant industrial sales manager with headquarters at East Pittsburgh.

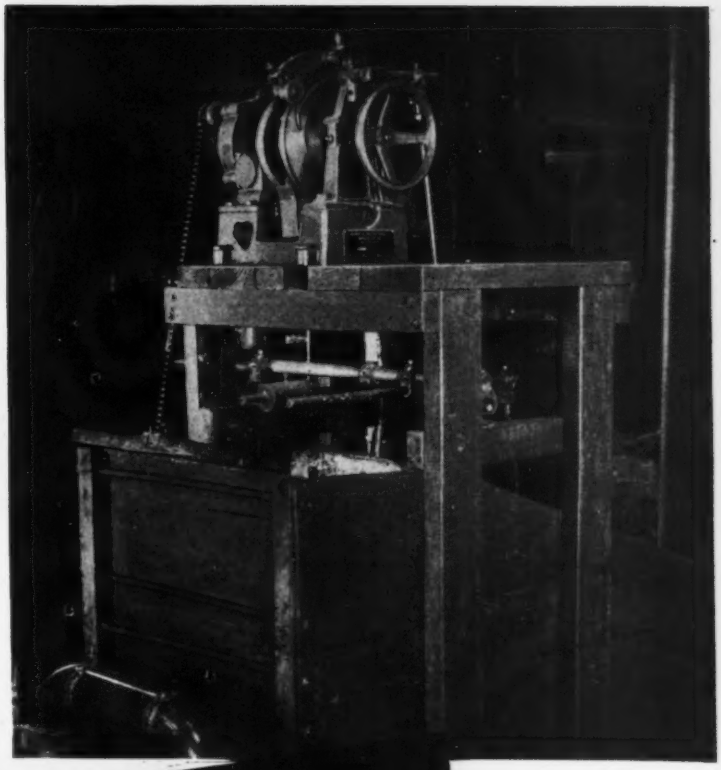
A native of Cloverport, Kentucky, Mr. Weatherholt was graduated from the University of Kentucky in 1921 with the degree of Bachelor of Science in mechanical engineering. He came to Westinghouse that year as a member of the graduate student course and upon completion of the course was assigned to small motor sales in East Springfield, Massachusetts.

In 1925 Mr. Weatherholt was transferred to the Albany, N. Y., sales office and a year later was assigned to the New York City office. In 1940 he was named eastern resale manager, the position he held at the time of his new appointment.

### Truck Loggers Again Elect Smith President

VANCOUVER, B. C. — Clair Smith of Smith & Osberg Ltd., Vancouver, B.C., was re-elected as president of the Truck Loggers' Association of British Columbia at the fifth annual convention of that organization in Vancouver recently. Also re-elected were F. H. Parker, vice-president, and F. H. Adames, secretary.

Directors for 1948 are O. A. Buck, H. J. Welch, M.L.A.; W. L. Keate, Jr., W. C. Gibson, J. W. Baikie, F. G. Barwell, G. E. Wellburn, D. M. McKenzie, J. E. Fletcher, G. H. Clarke, R. H. Grant and L. A. Moloney.



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## Raymond Lee Becomes Lockport Active Head

LOCKPORT, N. Y. — Directors of the Lockport Felt Company have elected former Senator William H. Lee as president and chairman of the board of directors, and his son, Raymond J. Lee, as executive vice-president and treasurer. Both officers were elected directors at the annual meeting of the stockholders.

Election of the former general manager tc the newly-created position of executive vice-president was brought about by the fact that since his return from service in the U. S. Navy, Raymond J. Lee has assumed direction of mill activities at the request of his father. This authority has been broadened so that now the young executive will have complete charge.

Lester J. Robinson was elected a new director and others renamed by the stockholders are: Mrs. Elizabeth M. Lee, Lester D. Carner, William W. Campbell, Jr., William E. Miller, Roy T. Yates, and Bertram A. Audley.

Mrs. Lee was elected first vice-president by the directors and Mr. Audley was named second vice-president in charge of sales, and assistant treasurer. Mr. Carner was elected secretary and Edna Wilson, assistant secretary. Mr. Miller was named corporation counsel of the company.

The new executive vice-president announced that Mr. Robinson now is manager in charge of plant operations. Howard F. Brown, Newfane, is mill superintendent, and Raymond J. Capen, Newfane, assistant superintendent. C. Joseph Price, Lockport, is comptroller.

In the president's report to the stockholders, Mr. Lee outlined the many improvements in plant facilities made by the company during the past year to meet modern production methods and said that the company is going ahead with a further building and modernization program which would, no doubt, entail additional expenditures of at least $150,000 during the next two years, in addition to the $150,000 spent during 1947.

"With the continued heavy demand on the paper mills for paper and paper products, I can foresee a satisfactory demand for our product during 1948," Mr. Lee reported.

"For the first time in many years our product has been distributed to many points throughout the world and with our added plant facilities, it is expected that we will be in a position not only to meet domestic demands but continue supplying our product throughout the world."

## Magnolia Seeks Approval For Bainbridge Mill

BAINBRIDGE, Ga.—Leo Stack, president of the Magnolia Timber and Development Corporation, appeared before the Decatur County Commissioners at the regular monthly meeting of that body, in the interest of his proposal to construct and operate a paper mill at Bainbridge Army Air Field site.

JOHN H. HINMAN
Sees broader future

In an interview, Mr. Stack said the discussion was highly satisfactory to him, and the Board of Commissioners showed a desire to cooperate in every way. "We began our activities in Bainbridge fourteen months ago," he said, "and since that time we have made a number of surveys which are necessary to promote an undertaking of such magnitude. The Magnolia Timber and Development Corporation has received the cooperation of county authorities, timber growers and the people of this section."

When asked to comment on the outcome of the appearance of Mr. Stack before the Board of Commissioners, W. H. Miller, county Attorney, said: "The Board assured Mr. Stack that it would cooperate in every way with him in the building of a paper mill, and that it was willing and ready to negotiate when he got ready."

## Union Bag & Paper Adds Box Plant in Chicago

NEW YORK — Union Bag & Paper Corporation last week made known its purchase of the plant of Corrugated Containers, Inc., Chicago. On March 1 it will commence shipments of corrugated boxes from the plant to midwest customers. M. Norian, former president of Corrugated Containers, will remain as sales manager for the Chicago district. The plant will be enlarged and new machinery installed.

Addition of the Chicago factory rounds out the new paper board and box program of Union Bag & Paper Corporation. Since last fall the company has placed in production a new box plant built adjacent to its pulp and board mill in Savannah, Ga. It has also acquired an interest in a Jamestown, N. C., corrugated box factory, and purchased a corrugating plant in Trenton, N. J.

## International Marks Its First 50 Years

NEW YORK—The 50th Anniversary of International Paper Company, formed in New York on January 31, 1893, was celebrated last Saturday night at a dinner for more than 500 New York employes in the grand ballroom of the Waldorf Astoria hotel. The two main addresses of the evening were by Richard J. Cullen, Chairman of the Corporation, and John H. Hinman, President. David T. Layman, Jr., spoke for the Board of Directors, and John W. Davis, former presidential candidate and legal counsel for the Company, was toastmaster.

Mr. Cullen pointed out that when he first came with the Company in 1926, the Southern Kraft Division was a relatively new field in the paper industry.

"At that time," he said, "the Company's capacity in this field was only 230 tons per day. By 1936 that capacity had increased to 1,410 tons per day, and today it stands at 4,700 tons per day."

Twelve years ago, Mr. Cullen stated, the daily capacity of the company was 6,000 tons. Today it is 9,500 tons. Production of converted products twelve years ago was 115 thousand tons. Today it is 544 thousand tons. Working capital twelve years ago was $34 million. Today it is $70 million. Funded debt twelve years ago was $84 million. Today there is no funded debt. No dividends were paid in 1935. In 1947 they totaled $15 million dollars.

Mr. Cullen also announced that the company was now engaged in a substantial program of capital expenditures which would greatly increase the efficiency of all company mills, and which when completed would increase the total capacity of the company to more than 11,000 tons per day. All the cash to complete this program, he said, will be provided without borrowing.

Mr. Hinman told employes and their guests that forces were now at work which might revolutionize the paper industry.

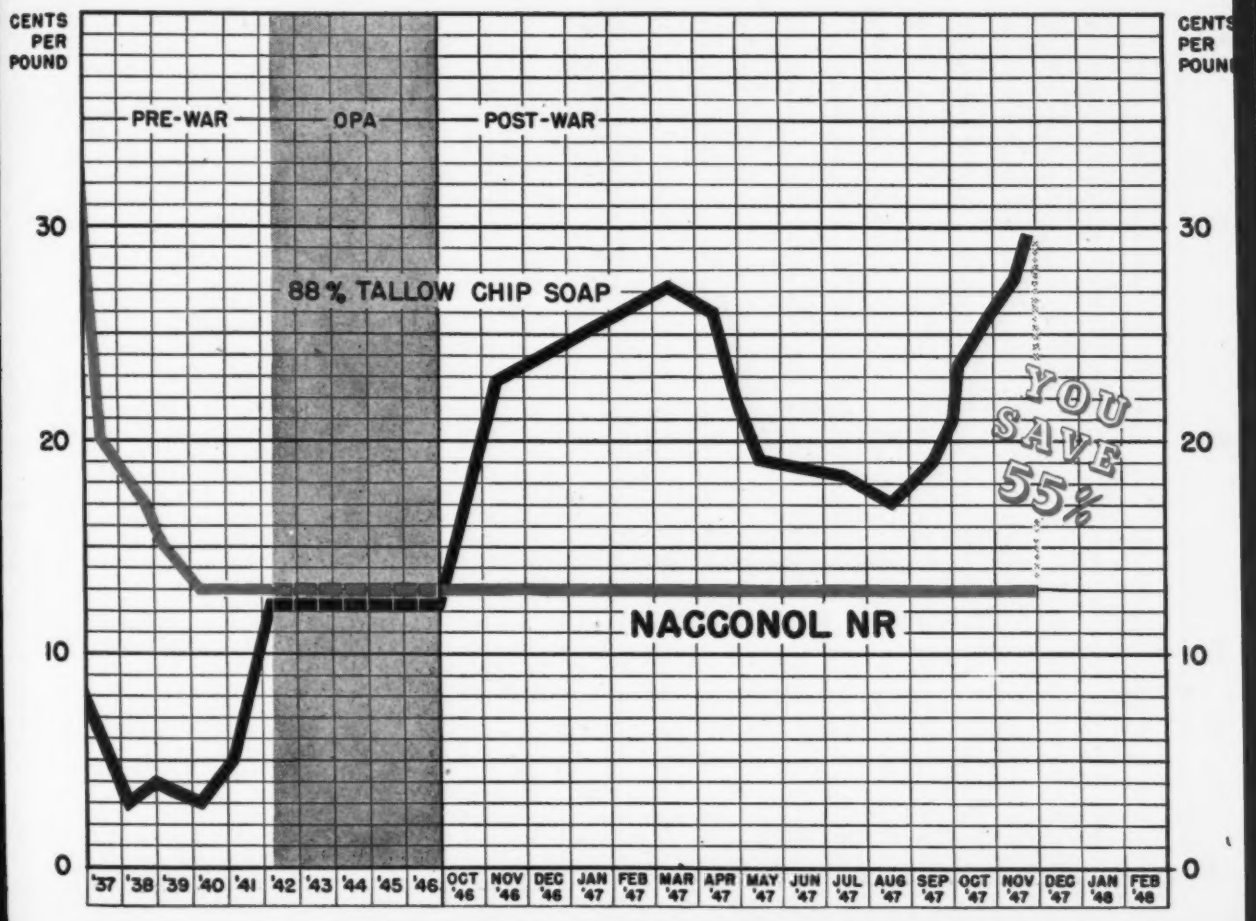
"It is perfectly clear, I think," he said, "that the future of our companies does not lie in any narrow conception of the uses of wood, but in a full realization that we ourselves are processors of a forest crop from which we can develop—alone or with others—a great variety of products for the good of man. Perhaps in the next half century we will discover that paper was only the first of many such products."

He then disclosed for the first time that by-products of pulp and paper making can now be utilized—by means of a newly developed process—for the immediate production of industrial vegetable fats and rosin in a purer form than has yet been possible from such a source, and for the possible future production of edible foodstuffs.

*(Continued on page 30)*

*Pictures Speak Louder Than Words*

## COST COMPARISON - NACCONOL NR vs SOAP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## Thornton Elected By Wisconsin Group

NEENAH, Wis. — W. L. Thornton, Jr., general traffic manager of Kimberly-Clark Corporation, was elected president of the Wisconsin Paper Group, a non-profit organization for providing pool carload delivery service to customers of the Wisconsin paper manufacturers and converters, at the annual meeting at the Valley Inn on January 24. Mr. Thornton succeeds Henry C. Krueger, Fox River Paper Corporation, Appleton.

E. C. Hilfert, general manager of Riverside Paper Corporation, Appleton, was elected vice-president to succeed Mr. Thornton. Leo O. Schubart, secretary-treasurer of the Neenah Paper Company, was re-elected secretary-treasurer.

Ernest Draheim, Daniels Manufacturing Company, Rhinelander; Douglas C. Hyde, Marathon Corporation, Menasha; and Carl Raddant, Wolf River Paper Company, Shawano, were named to the executive committee. Re-elected were C. W. Hoeper, Badger Paper Mills, Inc., Peshtigo; H. D. Wake, Consolidated Water Power and Paper Company, Wisconsin Rapids; A. C. Remley, Nekoosa-Edwards Paper Company, Port Edwards; and A. J. Schierl, Whiting-Plover Paper Company, Stevens Point. Irwin Pearson, Neenah, executive secretary, was retained in that capacity.

Reports submitted by Mr. Schubart and Mr. Pearson indicated that despite acute shortages of empty box cars and other transportation difficulties, the Group has been able to maintain consistently its dated pool car schedule throughout 1947.

Dr. Donald M. DuShane, dean of men and associate professor of government at Lawrence College, who spoke on "The State of the Union," was introduced by Dan Hardt, new sales manager of the Neenah Paper Company.

A luncheon preceded the meeting. Seventy-seven executives of the 31 member mills throughout the state attended. Offices of the Paper Group are located at 411 Garfield Avenue, Menasha.

### Expect Celanese to Get First Forest License

VANCOUVER, B. C.—Celanese Corporation of America will, it is believed, secure the first forest management license issued in British Columbia. This license will be issued under amendment to the Forest Act, authorized at the 1947 session of the B. C. Legislature. The Celanese Corporation is constructing a celanese plant at Port Edwards near Prince Rupert.

Since the Forest Act was amended to provide for perpetual yield in B.C.'s forest industry on a working circle plan, nearly 100 applications for licenses have been received. These will be dealt with as officials of the department complete their reports on the areas covered.

### Clyde Steele Heads New Instrument Group

APPLETON, Wis. — Clyde Steele of Combined Locks Paper Company was named to serve as president pro-tem of the newly organized Lakes States Instrument Society January 27 at the Institute of Paper Chemistry, as the 45 persons present, most of them from the Fox River valley area, heard a talk on instrumentation by Dr. J. A. Van den Akker of the Institute.

The group completed its formal organization but postponed election of permanent officers until the membership is more representative and is better acquainted. Robert Rae and Frank Kottwitz of the Institute are serving as secretary and treasurer protem.

Dr. Van den Akker's talk clarified the basic concepts of instrumentation. He pointed out that the older an industry is, the poorer its instrumentation seems. The leather industry, he said, is virtually without instrumentation; the paper industry did not use instruments until about 20 years ago; while the electrical industry of relatively recent origin, is highly instrumented.

Members adopted a constitution and by-laws and defined the objectives of the society as follows:

"The advancement of the arts and sciences connected with the theory, design, manufacture and use of instruments in various sciences and technologies."

The organization is open to any one interested.

### Glatfelter Shows New Film On Paper Making

NEW YORK—P. H. Glatfelter Company's third edition of its motion picture "A Short Course in Paper Making" was shown for the first time on Wednesday, January 28, at the University Club in New York at a dinner given by the Glatfelter company and by Perkins & Squier Company, their distributors for the book publishing industry. The film is in color with sound and shows the process of making paper from the woodlands to the shipping platform. Previous editions of this film have been shown widely throughout the country and have aroused great interest in the story of paper making among consumers of paper and the general public.

### Badger Mills Re-elect Slate

PESHTIGO, Wis.—Badger Paper Mills, Inc., on January 27 reelected the following officers: John P. Pulliam of Milwaukee, chairman of the board; E. A. Meyer, president; C. W. Hoeper and H. L. Haslanger, vice-presidents; W. F. Adrian, secretary and treasurer; F. J. Lauerman, assistant secretary and treasurer.

## A.P.P.A. Highlights Records of 1947

NEW YORK — Reviewing the accomplishments of the paper and paperboard industry this past year, the December issue of the Monthly Statistical Summary of the American Paper and Pulp Association, just issued, highlights the facts that during 1947 monthly production was exceeded six times, and that the year's estimated production of 21,065,343 tons exceeded 1946, another record year, by 9 per cent. Also, this year's prospects for groundwood, book, fine, kraft, sulphite, glassine, greaseproof, tissue, specialty papers and board are analyzed in some detail.

"Contributing to the record production last year was the high level of postwar installation of machinery and equipment in 1947 which raised the annual productive capacity by about 1,355,590 tons, to 21,775,590 tons at year end.

"Entries of wood pulp into the United States last year amounted to about 2,300,000 tons, an increase of a half a million tons over 1946. Canada supplied 65 per cent of this imported wood pulp.

"Wood pulp production during 1947 averaged almost a million tons a month, totaling 11,930,000 tons for the year; and while consumption of wood pulp was at a record high, inventories of wood pulp increased appreciably over the year due to increased domestic production and imports. There appears to be every prospect that the domestic pulp industry will continue to operate at record levels in 1948; and because of increases in productive capacity, actual production in 1948 will probably exceed even the record output of last year.

"Waste paper collections last year reached a record total of 7,900,000 tons, and prospects for an adequate supply during 1948 appear to be good.

"The Association's production and basic demand indexes in November each rose about two points, leaving the October relationship between them practically unchanged.

"Orders received by the mills in December were 0.4 per cent above production, while the backlog of orders increased 0.9 per cent and stocks on hand at the mills increased 0.9 per cent.

"The December daily average production of the papers manufactured by members of the Divisional Associations of the American Paper and Pulp Association increased 7.8 per cent over December 1946, but declined 3.8 per cent under November 1947.

"In 1948, as in the past, business conditions in the paper industry will follow the general course of business, which cannot be determined at this early date."

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# FINANCE

## Court Sets Aside St. Lawrence Plan

MONTREAL—The reorganization plan of St. Lawrence Corporation, Ltd., was set aside late last week by Justice Louis Boyer in superior court. The plan had been approved by an overwhelming majority of stockholders.

Justice Boyer rejected the recapitalization plan on the grounds that stockholders were "given incorrect and misleading and insufficient information on which to base their votes at the shareholders' meeting." He also said the plan was "unfair" and "in the sole interest of the common stockholders."

The plan was originally approved by the court in a judgment rendered December 22, 1947. It was subsequently attacked by Joseph Mayr, New York investment dealer.

Justice Boyer said at issue in the case were questions as to the validity of the shareholders' vote, the nature of the information given them and the fairness of the arrangement about which, he said, the court now had new information.

The judge held the proposed arrangement was approved by a large majority of shareholders of the company, but he said a large number of shareholders who voted for it were necessarily influenced by their holdings, such as the Van Alstyne interests which held 150,647 common and 2,550 preferred shares and the Timmins interests which owned 269,993 common and 14,900 preferred shares.

The company's directors, with their own holdings and through proxies, represented 20,819 preferred and 231,263 common shares had voted for the plan.

"The plan," Justice Boyer added, "would certainly affect the common shares favorably on the stock market and even a 5 or 10 point rise would net the Van Alstine interests $753,235 or even to the extent of $1,506,470."

The St. Lawrence Corporation reorganization plan provided for creation of new first and second preferred shares. The latter shares would be redeemable at a price to cover dividend arrears on the presently outstanding preferred shares. Common share capitalization was unaffected by the plan.

### Discuss St. Croix Sale To New Owner

BOSTON, Mass.—The possibility that the St. Croix Paper Co., which operates a newsprint mill near Calais, Me., may be sold, has been indicated in a letter to stockholders by President John L. Hobson.

The letter said owners of approximately 56 percent of the outstanding 24,822 shares had deposited or agreed to deposit their stock with the Old Colony Trust Co., under an escrow agreement.

If at least 75 percent has been deposited by February 16, a possible purchaser, whose identity was undisclosed, would have three months to examine the property and make an offer.

Hobson indicated no offer had been made as yet.

St. Croix owns approximately 600,000 acres of timberland in the United States and Canada, and has contracts with many large newspapers.

## Brown Seeks Plan to Raise New Capital

BERLIN, N. H. — Brown Company directors are working on a recapitalization plan, F. G. Coburn, president, has written to common and preferred stockholders. The letter was in answer to stockholders' inquiries about prospects for preferred dividend payments, and a recapitalization plan that would provide new securities in place of the present preferred stock on which $48 of unpaid dividends have accumulated.

Consolidated net earnings, after interest and taxes, for the fiscal year ended Nov. 30, 1947, are estimated at $2,800,000, compared with $1,593,982 in 1946. Only $2,030,000 of the 1947 earnings, however, are available to Brown Co., because only a part of the Canadian subsidiary's earnings (Brown Corp.) can be brought to the United States under the Canadian Foreign Exchange Control Board's regulations.

Brown Co., since the present management assumed control, Nov. 29, 1941, has received $26,581,777 of which $22,757,830 were spent or set aside, and $3,823,947 added to working capital.

Net proceeds of $2,905,011 realized from the 1947 sale of the Bersimis (Que.) timberlands will be applicable towards financing improvements at La Tuque.

Future work, after mid-summer, to make the plants competitive, must be financed from cash realized from operations, according to President Coburn, because "the company has reached the limit of its borrowing power, and no substantial capital assets are available for liquidation.

## FINANCIAL RECORD OF THE WEEK

### New York Stock Exchange

High, Low and Last for Week Ending January 31, 1948

STOCKS

| | High | Low | Last |
|---|---|---|---|
| A. P. W. | .... | .... | .... |
| Armstrong Cork Co. | 45 | 42¼ | 44¼ |
| Armstrong Cork Co., pf. | 89¾ | 88 | 88¾ |
| Celotex Corp. | 26 | 24 | 25⅝ |
| Celotex Corp., pf. | 20 | 19¾ | 20 |
| Certain-Teed Products Corp. | 16 | 15⅛ | 15¾ |
| Certain-Teed Products Corp., pf. | .... | .... | .... |
| Champion Paper & Fibre Co. | 20½ | 19⅞ | 20½ |
| Champion Paper & Fibre Co., pf. | 96¾ | 96 | 96¾ |
| Congoleum Nairn Co. | 31 | 30 | 30½ |
| Container Corp. of America | 40¾ | 38¾ | 38¾ |
| Container Corp. of America, pf. | 95¼ | 95¼ | 95¼ |
| Crown Zellerbach Co. | 30⅜ | 29⅝ | 30 |
| Crown Zellerbach Co., pf. 4.20 | 94¾ | 94½ | 94¾ |
| Crown Zellerbach Co., 4 pf. 4 | 113⅛ | 111 | 113⅛ |
| Dixie Cup Co. | 34 | 33¼ | 34 |
| Dixie Cup Co., A | 51 | 48 | 51 |
| Flintkote Co. | 35 | 32¼ | 34⅛ |
| Flintkote Co., pf. | 99 | 99 | 99 |
| Robert Gair | 8¾ | 7¾ | 8¾ |
| Robert Gair, pf. | 19 | 19 | 19 |
| International Paper Co. | 50⅞ | 47 | 50 |
| International Paper Co., pf. | 95 | 94½ | 94½ |
| Johns-Manville Corp. | 38 | 36⅝ | 38 |
| Johns-Manville Corp., pf. | 103 | 102 | 103 |
| Kimberly-Clark Corp. | 21⅜ | 21 | 21¼ |
| Kimberly-Clark Corp., pf. | 100½ | 98½ | 100 |
| Mac Andrews & Forbes | 36⅞ | 36 | 36 |
| Mac Andrews & Forbes, pf. | .... | .... | .... |
| Marathon Corp. | 22¼ | 21⅛ | 21⅛ |
| Mead Corp. | 19½ | 19 | 19⅜ |
| Mead Corp., pf. 4¼ | 92½ | 91¾ | 91¾ |
| Mead Corp., pf. 2 | 40½ | 40 | 40 |
| National Container Corp. | 13¼ | 12⅝ | 13⅛ |
| Paraffine Companies, Inc. | 74 | 72 | 72 |
| Paraffine Companies, Inc., pf. | 100¾ | 100 | 100¼ |
| Rayonier, Inc. | 25¾ | 23½ | 25¾ |
| Rayonier, Inc., pf. | 32½ | 32 | 32½ |
| Ruberoid Co. | 60 | 57 | 59½ |
| St. Regis Paper Co. | 9½ | 9⅛ | 9⅛ |
| St. Regis Paper Co., pf. | 81½ | 80 | 81 |
| Scott Paper Co. | 43½ | 43 | 43½ |
| Scott Paper Co., pf. | 94 | 94 | 94 |
| Sutherland Paper Co. | 40½ | 39 | 40½ |
| Union Bag & Paper Corp. | 31¾ | 29¾ | 31¾ |
| United Paperboard Co. | .... | .... | .... |
| U. S. Gypsum Co. | 97¾ | 95½ | 96½ |
| U. S. Gypsum Co., pf. | 174 | 173 | 173 |
| United Wallpaper | 5⅛ | 5 | 5 |
| United Wallpaper, pf. | 31½ | 31½ | 31½ |
| West Virginia Pulp & Paper Co. | 43¼ | 42½ | 43 |
| West Virginia Pulp & Paper Co., pf. | 103½ | 103½ | 103½ |

BONDS

| | | | |
|---|---|---|---|
| Celotex Corp., 3¼s '60 | 99½ | 99½ | 99½ |
| Certain-Teed Products Corp., 5½s '53 | .... | .... | .... |
| Champion Paper & Fibre Co., 3s '65 | .... | .... | .... |
| Mead Corp., 3s '68 | .... | .... | .... |

### New York Curb Exchange

High, Low and Last for Week Ending January 31, 1948

STOCKS

| | High | Low | Last |
|---|---|---|---|
| Great Northern Paper Co. | 42 | 41¾ | 41¾ |
| Taggart Corp. | 10¾ | 10½ | 10¾ |

BONDS

| | | | |
|---|---|---|---|
| American Writing Paper Co., 6s '61 | .... | .... | .... |

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# TAPPI Convention Program Full Of Paper Maker Interest

NEW YORK—Complete details of the convention program of the Technical Association of the Pulp and Paper Industry were made public this week. They indicate a well-planned schedule designed to hold something of interest for all who may attend.

The schedule of meetings follows:

MONDAY, FEBRUARY 23, 1948—10:00 a.m. — *General Session* (Grand Ball Room) — W. F. Gillespie, President, TAPPI, Chairman: 1. Secretary's Report, by R. G. Macdonald; 2. President's Address, by W. F. Gillespie; 3. Tellers Report; 4. Joint Textbook Committee Report; 5. University of Maine Department of Industrial Cooperation, by Lyle C. Jenness, Director; 6. The Patent Office, by Lawrence C. Kingsland, U. S. Commissioner of Patents, Washington, D. C.

2:00 p.m. — *Committee Meetings* (Grand Ball Room). Nearly all of the Association Committees will hold business meetings to discuss current projects and future plans.

2:00 p.m. — *Microbiological Control Methods* (West Ball Room) — J. W. Appling, Buckman Laboratories, Chairman: 1. The Foaming Properties of Solutions of Various Chlorinated Phenols, by C. R. Haefele, Eastman Kodak Company, Rochester, N. Y.; 2. Panel Discussion on The Evaluations of Toxicants for Use in the Paper Industry.

2:00 p.m. — *Containers* (East Ball Room) — W. B. Lincoln, Jr., Inland Container Corp., Chairman: 1. Standardization of Mullen Test Procedures for Use on Paperboard, by R. C. McKee, Institute of Paper Chemistry, Appleton, Wis.; 2. Load Concentration in Corrugated Paper, by J. H. Toulouse and Paul J. Barcus, Owens-Illinois Glass Company, Toledo, Ohio; 3. Sealing Strength Procedures for Waxes, by T. Z. Roehren, Socony-Vacuum Laboratories, Brooklyn, N.Y.; 4. Progress Report on the Testing Program of the Shipping Container Institute, by W. B. Lincoln, Jr., Inland Container Company, Indianapolis, Ind.

TUESDAY, FEBRUARY 24, 1948—9:15 a.m. — *Acid Pulping* (Room B-C) — George H. McGregor, Minnesota & Ontario Paper Company, Chairman: 1. Semichemical Pulping of Chip Screenings, by Lyle C. Jenness, Univ. of Maine, Orono, Me., and George L. Nystrom, Eastern Corporation, Bangor, Me.; 2. Review of the Status of Byproducts from Sulphite Pulping, by Harry F. Lewis, Institute of Paper Chemistry, Appleton, Wis.; 3. Modern Practice in Sulphite Mill Acid and Recovery Plants, by Frank J. Hoar, G. D. Jenssen Company, Watertown, N. Y.; 4. Recent Developments in Sulphite Pulping, by John F. Inderdohnen, Chemipulp Process, Inc., Watertown, N. Y.

9:15 a.m. — *Paper Making (Fourdrinier)* (Grand Ball Room) — B. E. Kassing, New York State College of Forestry, Chairman: 1. The Effect of Fourdrinier Operating Variables as Related to Sulphite Papers, by Noel Phillips, Hollingsworth and Whitney Company, Waterville, Me.; 2. Stock Preparation Conditions Affecting Formation, by Fritz Klein, Byron Weston Company, Dalton, Mass.; 3. Stock Preparation Effects on Formation, by T. M. Barry, Fraser Paper, Ltd., Madawaska, Me.

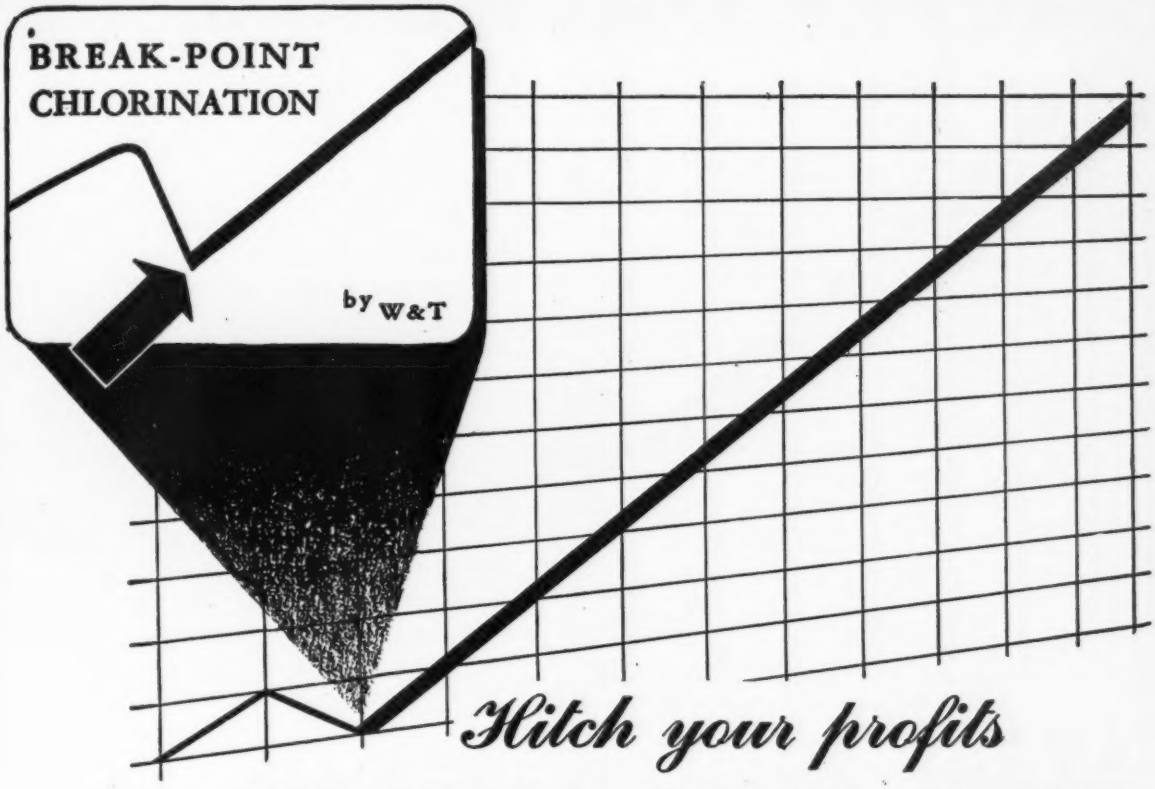
9:15 a.m.—*Graphic Arts* (East Ball Room)—R. H. Simmons, Government Printing Office, Chairman: 1. Reproductible Gloss Standards, by Daniel Smith and Marie M. Mahoney, Interchemical Corporation, New York, N. Y.; 2. Paper and Gravure Printing by George Cramer, Sinclair-Valentine, Inc., New York, N. Y.; 3. Printing Research Problems, by the National Printing Ink Research Institute; 4. The Relation of Paper and Ink in High Speed Printing, by E. R. Duffie, Meredith Publishing Company, New York, N. Y.; 5. Printability of Paper, by Otto P. Berberick, Lou Engelhard and Milton Zucher, Inc.; 6. Motion Picture: "How to Make a Good Impression," by Harris-Seybold, Cleveland, Ohio.

9:15 a.m. — *Fibrous Agricultural Residues* (West Ball Room) — S. I. Aronovsky, Northern Regional Research Laboratory, Chairman: 1. Arundo Donax Pulp, by W. F. Gillespie, Gaylord Container Corporation, Bogalusa, La.; 2. Neutral Sodium Sulphite for Commercial Pulping of Straw for Corrugating, by B. F. Stahl, Terre Haute Paper Company, Terre Haute, Ind.; 3. Combined Straw Again Injurious to Clover Seedings, by C. J. Willard, Ohio Agricultural Experiment Station, Columbus, Ohio; 4. Strawboard Waste Liquors, by Don Bloodgood, Purdue University, Lafayette, Ind.

2:00 p.m. — *Research Development* (Room B-C) — Roy P. Whitney, Institute of Paper Chemistry, Chairman: 1. Nitration of Wood Pulp — Influence of the Physical Condition of Pulp and of the Species of Wood, by Milton O. Schur, Ecusta Paper Corporation, Pisgah Forest, N. C., and Douglas H. McMurtrie, Brown Company, Berlin, N. H.; 2. Composition Changes Occurring During Vacuum Evaporation, Steam Stripping, and Deashing of Ammonium Sulphite Waste Liquors, by Aaron E. Markham and Joseph L. McCarthy, Dept. of Chemical Engineering, University of Washington, Seattle, Wash. (By Title); 3. The Pyrolysis of Ammonium Sulphite Waste Liquor to Yield Ammonia, by Aaron E. Markham, Quintin P. Perriston, and Joseph L. McCarty (By Title).

2:00 p.m. — *Vocational Training* (Grand Ball Room) — B. E. Lauer, University of Colorado, Chairman: 1. University Training on the Graduate Level, by Harry F. Lewis, Institute of Paper Chemistry, Appleton, Wis.; 2. University Training on the Undergraduate Level, by E. C. Jahn, New York State College of Forestry, Syracuse, N. Y.; 3. Training in the Vocational Schools, by George A. McGarvey, U. S. Office of Education, Washington, D. C.; 4. Training in Industry. (a) Problems and Solutions in Training on the West Coast, by F. A. Olmsted, Crown Zellerbach Corporation, San Francisco, Calif. (b) Problems and Solutions in Training in the Southeast, by J. H. Groves, Union Bag & Paper Corporation, Savannah, Ga.; 5. What Industry Expects of Educational Institutions, by Harold M. Annis, Oxford Paper Company, New York, N. Y.

2: p.m.—*Pulping* (East Ball Room) — John A. Hanson, Badger Paper Mills, Chairman: 1. Pulping Southern New England Hardwoods, by Robert S. Aries, Polytechnic Institute of Brooklyn, Brooklyn, N. Y.; 2. Effect of Petroleum-Base Additives in Pulp and Paper Making, by W. A. Beeman and H. E. Corwin, Socony Vacuum Oil Company, New York, N. Y.; 3. Observations on Bleaching Groundwood Pulp, by F. A. Simmonds and R. M. Kingsbury, Forest Products Laboratory, Madison, Wis.; 4. Production of Liner Boards from Jack Pine and Hardwood Semichemical Pulps, by J. N. McGovern, G. E. Makin, and G. H. Chidester, Forest

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Products Laboratory; 5. Factors Influencing Properties of Mechanical Pulp, by M. Vilars, S. A. Papeteries Darblay, Paris, France (By Title).

2:00 p.m. — *Fibrous Agricultural Residues* (West Ball Room) — S. I. Aronovsky, Chairman: 1. Agricultural Residue Pulps — Comparison of Pulping Processes, by S. I. Aronovsky, A. J. Ernst, H. M. Sutcliffe, and G. H. Nelson, Northern Regional Research Laboratory, Peoria, Ill.; 2. Agricultural Residue Pulps — High Yield Straw Pulps for Fine Papers, by S. I. Aronovsky, G. H. Nelson, A. J. Ernst, H. M. Sutcliffe, E. C. Lathrop, Northern Regional Research Laboratory; 3. Further Progress in Continuous Pulping, by R. G. Goodwin, Paper & Industrial Appliances, Inc., New York, N. Y.

WEDNESDAY, FEBRUARY 25, 1948 — 9:15 a.m. — *Structural Fibrous Materials* (Room B-C)—John F. Cambbell, Flintkote Company, Chairman: 1. A Comparison of Freeness Testers on Board Stock, by C. E. Hrubesky, Forest Products Laboratory, Madison, Wis. 2. Preservation of Fiber Insulating Board With Chlorinated Phenols, by E. A. Behr, Chapman Chemical Company, Chicago, Ill. 3. Test Methods for Impact Strength, Concentrated Load, and the Bursting Strength on Insulating Board, by Frank B. Rowley, University of Minnesota, Minneapolis, Minn.; 4. Evaluation of Fibrous Agricultural Residues for Structural Building Boards, I. Methods and Equipment of the Northern Regional Research Laboratory, by E. C. Lathrop and T. R. Naffziger, N.R.R.L., Peoria, Ill. 5. Evaluation of Fibrous Agricultural Residues for Structural Building Boards, II. Fundamental Studies on Wheat Straw Fiber, by E. C. Lathrop and T. R. Naffziger; 6. Use and Abuse of Fiberboard in Modern Construction, by Griffith S. Clark, Homosote Company, Trenton, N. J. (Tentative).

9:15 a.m. — *Coating* (East Ball Room) — Frank J. Egan, Consulting Engineer, Chairman: 1. A Study of Penetration of Starch Adhesive in a Coating Mixture Into Base Paper, by J. P. Casey, A. E. Staley Company, Decatur, Ill., and C. E. Libby, New York State College of Forestry, Syracuse, N. Y.; 2. The Rheological Properties of Clay-Water Suspensions, by Bernard K. Asdell, Edgar Bros. Company, McIntyre, Ga.; 3. The Hercules High-Shear Viscometer, by J. Wilson Smith and Paul D. Applegate, Hercules Powder Company, Wilmington, Del.

9:15 a.m. — *Water* (Grand Ball Room) — Lewis B. Miller, University of Cincinnati, Chairman: 1. Pilot Plant Treatments of Deinking Waste, by Philip Morgan, National Council for Stream Improvement, New York, N. Y.; 2. The Effects of Chemical Agents on Iron Bacteria, by Karman Duchon, and L. B. Miller, University of Cincinnati, Cincinnati, Ohio; 3. Federal Legislation on Water Pollution Control, by Arthur D. Weston, Department of Health, Commonwealth of Massachusetts, Boston, Mass. 4. Physiological Effects of Sulphate Pulp Mill Wastes on Shellfish, by Walter A. Chipman, Jr., U. S. Fisheries Laboratory, Dept. of the Interior, Washington, D. C.; 5. White Water Treatment on a Pilot Plant Scale With the Liquor Sludge Contact White Water Reactor, by V. J. Calise, Liquid Conditioning Corporation, Linden, N. J. 6. The Application of the Cyclator in Paper Mill White Water Treatment, by J. M. Kahn, Infilco, Inc., Chicago, Ill.

9:15 a.m. — *Wet Strength* (West Ball Room)—K. M. Britt, Scott Paper Company, Pa., Chairman: 1. Wet Strength Development With Neutral Water-Soluble Polymers, by R. J. Myers and L. E. Kelley, Resinous Products and Chemical Company, Philadelphia, Pa.; 2. The Chemistry of Urea and Melamine Resins, by Robert W. Auten, Resinous Products and Chemical Company; 3. Fundamental Physical Chemical Characteristics of Melamine Resin Acid Colloid, by J. K. Dixon, G. L. M. Christopher, and D. J. Salley, American Cyanamid Company, Stamford, Conn.; 4. The Effects of Salts on the Melamine Resin Wet Strength of Paper, by C. S. Maxwell and W. F. Reynolds, American Cyanamid Company. (Note: There will be an exhibit of wet strength papers at this session.)

2:00 p.m.—*Statistics* (Room B-C)—T. A. Pascoe, Nekoosa-Edwards Paper Company, Chairman: 1. A Statistical Study of Some of the Variables of Alpha Cellulose Methods, by A. S. O'Brien, R. C. Brown, and L. K. Reitz, Eastman Kodak Company, Rochester, N. Y.; 2. Application of Statistical Methods to Paper Testing Procedures, Part I. Folding Endurance, by L. K. Reitz and F. J. Sillay, Eastman Kodak Company; 3. Other papers to be announced.

2:00 p.m.—*Coating* (East Ball Room)—Frank J. Egan, Consulting Engineer, Chairman: 1. Symposium on Coating Machines and Their Auxiliaries.

2:00 p.m. — *Water* (Grand Ball Room) — L. B. Miller, University of Cincinnati, Chairman: 1. Basic Principles of Corrosion Control by the Use of Lime, by Edward S. Hopkins, Bureau of Water Supply, Baltimore, Md.; 2. Treatment of Paper Mill Waste Liquors, by Rodney F. Coltart, Link-Belt Company, Philadelphia, Pa.; 3. Process Water for the Manufacture of Groundwood Papers, by J. G. Patrick, West Virginia Pulp and Paper Company, Luke, Md. (By title); 4. Quality of Process Water for the Manufacture of Alkaline Pulps (Kraft and Soda), by Lewis B. Miller, Chairman TAPPI Water Committee (By title).

2:00 p.m.—*Paper Making (Cylinder)* (West Ball Room) — O. E. S. Hedbring, United Paperboard Company, Chairman: 1. Features of an Eight Cylinder Board Machine, by Ives Gehring, Sealright Corporation, Fulton, N. Y.; 2. Routine Testing Procedures, Cylinder Board Mills. Report by E. O. S. Hedbring, United Paperboard Company, Thompson, N. Y.; 3. Panel Discussion on Quality Requirements of Folding Boxboard and How to Meet Them.

THURSDAY, FEBRUARY 26, 1948—9:00 a.m.— *Preparation of Papermaking Materials* (West Ball Room) — P. P. Gooding, Strathmore Paper Company, Chairman: 1. Fundamentals of Control Flow Beating, by L. E. Randecker, Hammermill Paper Company, Erie, Pa.; 2. Stock Preparation Principles and Progress, by H. P. Espennuller, Dilts Machine Works, Fulton, N. Y.; 3. The Mechanism of Water Resistance, by W. S. Wilton, Monsanto Chemical Company, Everett, Mass.; 4. Composition of Various Size Precipitates, by Donna Price, Hercules Powder Company, Wilmington, Del.

9:00 a.m.—*Plastics* (Room B-C)—E. C. Jahn, New York State College of Forestry, Chairman: 1. The Adhesion Properties of High Polymers, by A. D. McLaren, and C. J. Seiler, Polytechnic Institute of Brooklyn, Brooklyn, N.Y.; 2. Viscosity of Resin Solutions and Emulsions, by F. Eirich, Polytechnic Institute of Brooklyn, Brooklyn, N.Y.; 3. Phenol Furfural Varnishes in Laminants, by Harry Kline, Reichhold Chemicals, Inc., Detroit, Mich.

9:00 a.m. — *Mill Instrument Control* (Room A) — R. W. Porter, Chemical Engineering, Chairman: 1. Continuous Measurement of Sheet Moisture, by Harold A. Scholl, Brown Instrument Company, Philadelphia, Pa.; 2. Other papers to be announced.

1:15 p.m.—*Annual Luncheon* (Grand Ball Room), W. F. Gillespie presiding. 1. Introduction of guests. Address: "Preparedness," by Brig. Gen. W. E. Brougher, Commanding General, Camp Gordon, Georgia. (Note: Brig. Gen. Brougher was an associate of General Wainwright during the siege of Bataan.)

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**CHEMICALS**

## Canadian P.P.A. Elects Belnap

*(Continued from page 7)*

dent of the Canadian Pulp and Paper Association. Speaking at the annual luncheon of the Association in the Mount Royal Hotel, Mr. Fowler said the percentages were based on figures supplied by 12 representative companies whose total tonnages were nearly 60 percent of the industry's aggregate.

Association awards were made at the luncheon to W. H. Howard C.B.E., K.C., for his services as wartime coordinator of the pulp and paper products administration of the Wartime Prices and Trade Board, and to S. L. deCarteret, C.M.G., retiring president of the association.

Mr. Fowler stressed the importance of more fundamental research, chiding this continent for producing fewer discoveries than Europe.

"I believe that, by any test, our present research activities are seriously inadequate — inadequate for an industry of this size and inadequate to meet the probable developments of the future," Mr. Fowler said. "Much has been done in this industry in fundamental studies of physical and cellulose chemistry and in the speed of machines. But it may be worth pointing out that, despite a widespread North American opinion to the contrary, this continent has lagged behind Europe in producing basic new scientific discoveries.

Returning to the breakdown of the income dollar of the industry in 1947, Mr. Fowler noted that such a company surplus is often regarded as the property of the shareholders, but except in the event of liquidation, it is no such thing. It is money that is voluntarily left in the business by the shareholders to keep it running and financially sound. It helps to provide the working capital from which wages are paid and materials are purchased before payment is received from customers.

Glancing at the 12 cents tax item, Mr. Fowler said he did not think that "an industry that pays in taxes more than three times what its shareholders receive can ever be accused of not paying its public way."

Citing figures to show the size of the pulp and paper industry in Canada and emphasizing its proportionate responsibilities, the speaker warned:

"This is a time when many accepted faiths are being called in question. Our institutions are being subjected to intense scrutiny in the upheaval through which the world is passing. If you believe in the system which has made the growth of this industry possible, you must be prepared to stand up and defend it, not in vague generalities but giving chapter and verse to show that you recognize and will correct its defects, and that it is better than any alternative system that is offered."

Noting that Canadian newsprint production last year was 4,447,000 tons, an increase of more than 300,000 tons over the previous peak year of 1946, Mr. Fowler added that in 1947, "by increased efficiency and speeds, without the addition of new machines, we were able to add to United States supply the equivalent of more than the output of three newsprint mills similar to that now under construction in Alabama. Since October we have added the equivalent one such mill's output. This, incidentally, is the industry that was accused of conspiring to restrain the supply of newsprint in the United States."

Left side of the speakers table

More than 1,000 delegates from all parts of Canada and United States heard reports from committee chairmen on technical developments in the industry during the past year at the 23rd annual meeting of the Technical Section.

A report by Edward J. Thom, Howard Smith Paper Mills, Limited, and chairman of the mechanical pulp section, revealed production of mechanical pulp in 1947 in Canada showed an increase of approximately seven percent at close to capacity operation. Exports, particularly to the United States, attained a level 20 percent higher than in 1946, and the demand for mechanical pulp was well maintained on the domestic as well as the foreign markets, the report said.

R. M. Fowler
"Paying its public way"

Another report, submitted by T. A. McElhanney of the Abitibi Power and Paper Company, showed that widening uses for wood waste were being found in Canada through research and that new industrial products were being manufactured from these materials.

"Closer integration of the production of lumber and other primary timber products, and the production of pulp, veneer, fibreboard, secondary wood products, chemical and other products, will result in more effective forest utilization," Mr. McElhanney said.

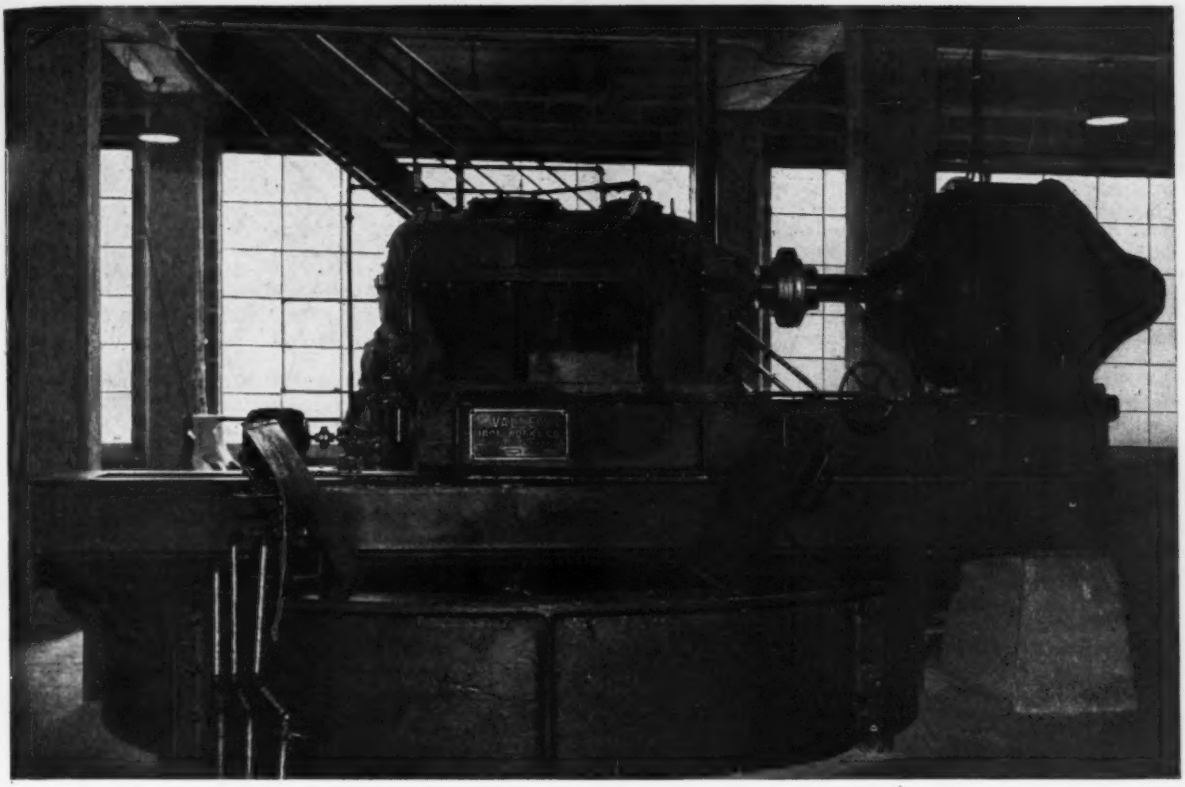
The woodlands section of the association recorded in the course of 1947 an increase of nearly 25 percent in its membership, W. A. Delahey of the Great Lakes Paper Company, Limited, section chairman, told the meeting. The section now numbers 696 members, he added.

In his annual report, Mr. Delahey told of the work done during the year to improve the methods of logging and the means used to protect and perpetuate Canada's forest resources, in the field of sylviculture, the regeneration of spruce was of particular interest to the section and long term research was being conducted in that respect.

Mr. Delahey also revealed that educational manuals, film strips and a motion picture on pulpwood cutting were also prepared to facilitate the training of woods workers.

R. M. Fowler, association president, told the delegates that the more efficient operation of pulp and paper mills was the objective of the group and that they must strive for complete utilization of the forest resources of the country.

"The measure of the success of this group," he declared, "is of immediate concern to this country as a whole and to the rest of the world. Not only is pulp and paper, in many respects, the largest industry in Canada, but it is also our main item of export to the United States and our main source of American dollars. Each additional ton



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2. **Freedom from maintenance and upkeep expense.**

# What You *Get* with a Valley Vortex:

1. **Chews up a ton of hard-formed pulp in 10 minutes—soft laps in a few seconds.**
2. **The heavy-duty commercial speed reducer does only one job—it turns the rotor! It takes no thrust or radial load! Pulper bearings have proved a perfect record of dependability over ten years' service in Vortex Beater operation!**

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Slices and Head Boxes • Screw Presses • Valley Vortex Pulpers • Laboratory Equipment
Pulp Washing Systems • High-Speed Beaters • Broke Beaters • Vortex Beaters • Plug Valves
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of pulp and paper products we can produce enables Canadians to buy more food, machinery and other products of primary importance which we are now forced to do without for the lack of U.S. exchange.

"Canada has in recent years, in spite of many difficulties and shortages, made tremendous strides in its efforts to satisfy the ever-rising world demand for newsprint and pulp products. Much of the credit for our success is due to the technical men, and the practical operators in the mills who constantly strive to improve methods and develop new processes. It is particularly significant that these men are ready to exchange for the common good the result of experiments and enquiries, in a spirit of true cooperation," Mr. Fowler said.

F. J. Giffen, assistant to the manager of manufacturing, newsprint division of Canadian International Paper Company was chosen chairman of the technical section at the annual business luncheon. He succeeds R. J. Askin.

F. J. Giffen
Heads Canadian Technical Section

Other officers chosen were: John Buss, Provincial Paper, Limited; Dr. J. Edwards, Price Brothers and Co., Ltd.; G. A. Franklin, The E. B. Eddy Company; W. C. R. Jones, Howard Smith Paper Mills, Ltd.; E. G. Kirby, Price & Pierce, Ltd.; and C. E. Turner, Building Products, Ltd.

Mr. Askin, in his report as retiring chairman, pointed out that a sizeable increase had been recorded in membership of the technical section during the year.

He said the section had gained 160 members and now had a membership of close to 1,000. He also referred to the inauguration of a Maritime-Newfoundland branch and noted with satisfaction that a considerable number of members of the new branch were of the rank of foreman or lower.

Douglas Jones, secretary-engineer of the technical section, in his annual report, said it was obvious that "with the growth of the membership, the live and active committees and branches, we are capable of cooperatively accomplishing much through this association, for ourselves and the industry.

"We can continue to solve problems, discover new ones, and solve those," he added. "We can learn to use more of the tree that God gave us, and reduce waste and conversion costs. We, who are older in the industry, I am sure, are willing to pass along what experience we have gathered to those newcomers who will assist us to maintain the position that this association and industry holds in Canada's national economy."

Mr. Jones also briefly described the work done by the 13 committees which functioned in 1947 to facilitate study of the main technical problems facing the industry.

Reporting on the importation of converted paper products which continued at a high level during 1947, R. B. Hall, chairman of the specialty paper section, told members that imports will be drastically curtailed as a result of the recent Canadian import restrictions.

Mr. Hall pointed out that in 1947, although most of the wartime restrictions were suspended, the Canadian mills were continuing to produce on a basis ensuing a maximum output.

Commenting on the meeting, F. L. Mitchell, manager of the association, said the success of modern industry depended largely on the progress of science and of what has come to be termed the "technical know-how."

Awards of the "safest mill in Canada" contest, sponsored by the Pulp and Paper Magazine of Canada, were presented by Editor J. N. Stephensen. The Grand'Mere mill of the Consolidated Paper Corporation won the Class A award covering mills with 50,000 man-hours per month, and the Crabtree Mills plant of Howard Smith Paper Mills won the Class B award for mills having less than 50,000 man-hours' operations per month.

The following awards of the technical section were also made: I. H. Weldon Memorial Medal for a paper on recent improvements in heat and chemical recovery in the alkaline pulping processes presented to G H. Tomlinson, Montreal; Dr. G. H. Tomlinson, Jr., J. H. Robertson, H. D. Orloff, Dr. J. N. Swartz, all of Cornwall; C. Howard Smith Medal for a paper from a junior member to W. E. Stobo of Quebec; and the technical section service award to E. G. Kirby, of Montreal.

Among the many interesting technical developments presented at the meeting of the Technical Section of the C.P.P.A. were three new testing instruments. Two of these instruments were designed to be used together to test the bending qualities of folding boxboard. The first is a scoring machine and consists of two turrets, one of which contains 6 tongue wheels of varying sizes and the other having 6 corresponding groove wheels. These tongue and groove wheels are used in sets according to the caliper of the board. The first set takes boards up to 8 point, the next set takes 8-12 point, and so on up, in 4-point steps. The machine is rigidly constructed to provide standard reproducable scores.

The companion machine is called the Durgin folder which performs a standard crease on the scored sample of board. The machine allows the crease to be made with control over the angle of the crease, the pressure applied and the length of time which the crease is held before releasing.

At last the makers and users of boxboard have instruments which give them a standard reproducable score and crease which will enable them to determine the folding qualities of any sample of board. The instruments are being manufactured by the Stabler-Baker Company, Gananocque, Ontario.

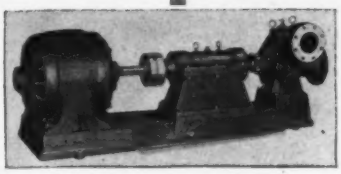
The third instrument determines the comparative roughness of newsprint by measuring the pressure drop in a calibrated system caused by the leakage of air across a portion of newsprint surface pressed against an optically plot surface. This machine is quite sensitive to small variations in the paper. It is called the Bendsten Roughness tester and will be manufactured by the A. C. Wickman Ltd., Toronto, Ontario.

Speakers table—toward the right

CENTRIFUGAL PUMPS FOR EVERY SERVICE

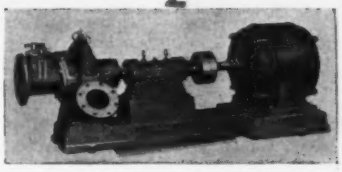
# Each a Cost-Cutter
## IN ITS STOCK JOB

1



Buffalo Diagonally Split-Shell Paper Stock Pump

2



Buffalo Horizontally Split-Shell Paper Stock Pump

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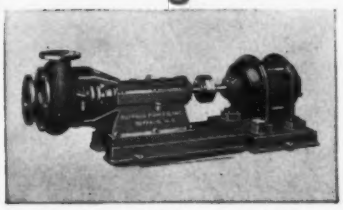

Buffalo Solid-Shell Paper Stock Pump

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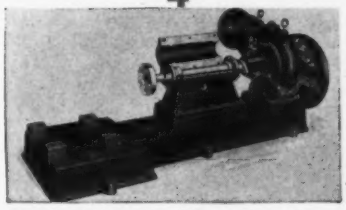

Buffalo Rubber-Lined Paper Stock Pump

**1.** DIAGONALLY SPLIT-SHELL

Extremely rugged in every part, these pumps have a convenience and simplicity of construction that piles up maintenance savings year after year on the job. Pump and bearing halves easily, quickly removed without disturbing alignment or piping.

**2.** HORIZONTALLY SPLIT-SHELL

Designed primarily for the "high head" jobs, these pumps have large diameter impellers of efficient enclosed design. Upper half of shell may be removed for servicing without touching discharge or suction piping. Oversize construction throughout.

**3.** SOLID-SHELL

For the smaller capacities where first cost is a consideration, these pumps have all the stamina and efficiency of the other "Buffalo" lines. Rotor is accessible through removable side plate without disturbing discharge piping. Adjustable discharge positions. Proven ideal for circulating and agitating service.

**4.** RUBBER-LINED

For handling hydrochloric, chlorinated paper stock, other corrosive liquids, or solutions containing abrasive solids. Has all the efficient, accessible, sturdy features of the regular "Buffalo" Split-Shell line.

*Bulletin* 953-F *has full information on the pump designed for your need. Simply write:*

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- GENERAL SERVICE
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RUGGED, PRECISION CONSTRUCTION—FOR LONG LIFE

## See Bureau Threat in Holyoke Power Grab

HOLYOKE, Mass.—The Federal Power Commission is eyeing the Holyoke power system—most valuable asset of the Holyoke paper industry—as a possible gateway to a Connecticut Valley Authority, modeled on the Tennessee Valley Authority, which eventually would branch out into Maine, New Hampshire and Vermont until all New England had become part of a single federal power system.

That's the picture William G. Dwight, managing editor of the Holyoke *Transcript* has drawn on the heels of action by the Municipal Gas & Electric Department for federalization of power here, despite the fact that it would take away water power rights of every paper mill in this paper city.

Dwight asserted that the application by the Gas & Electric Department for permission to expand the Connecticut River's power resources is a frank bid "to open up all of New England to public power."

The Holyoke Water Power Company, owners of the Holyoke dam and power canal system, and 23 manufacturers — most of them papermakers — who obtain power from the system, already have filed protests against the application and have made requests for a hearing.

According to Dwight, the Federal Power Commission hopes to use further development of the Connecticut River resources as the opening wedge toward complete public control of the New England water power system, which would include the Deerfield valley, as well as the Merrimac valley and the vast Maine system of waterways.

The project now contemplated by the Gas & Electric Department would heighten the Holyoke dam, producing an initial 1,110 additional kilowatts of power and would sell surplus electricity to neighboring cities and towns under authority requested from the state legislature. Dwight points out that this would mean lower rates and that private power companies eventually would be gobbled up by the public system.

The Gas & Electric Department argued that it proposes a fuller development of the river's resources than does the private power company, and that therefore its application for development rights should have priority over that of the Holyoke Water Power Company. Federal officials said that if the public power plan becomes a reality, the Holyoke Water Power Company could be adjudged a trespasser on the river and its installations could be acquired at junk value, thus reducing the costs of the public project.

The Holyoke Water Power Company has filed a petition with the FPC to intervene in the case brought by the Municipal Gas & Electric Department for taking over its properties here and generating the power at the Holyoke dam.

The local utility has prominent Washington counsel working with its local staff consisting of Atty. Russell Davenport and Atty. John S. Begley. Among the Washington lawyers is Atty. Dean Acheson, former assistant Secretary of State.

Meanwhile, charges that the municipal department's proposals toward municipal ownership of Connecticut River power facilities had no regard for the interests of Holyoke industries, were made in a spirited question-and-answer period following a talk by Francis H. King, Gas & Electric manager, at a Lion's Club meeting.

Statements by King were disputed by George Fowler, president of the Valley Paper Company. Fowler declared, "You are simply saying, here is some water power. Let's take it and forget all about considerations. . . . By considerations I mean the industries of Holyoke which have been all-important in the city's development and which are equally important to its future."

King replied that the G. & E. did not intend to seek a license for operation of power facilities without a preliminary survey to justify the move on grounds of economy of operation. Asked by the speaker if he thought that such a survey should be made, Fowler replied, "No, I do not believe it is necessary."

In his talk preceding the discussion period, King traced the history of the G. & E., from 1902, pointing out that present demands indicate a power shortage in the future unless further facilities are developed.

King said that an average of 20,000 kilowatts of power is being wasted at present, and that use of this would result in a great saving of fuel. Further economies would result from combination of all facilities under the same management, he added.

### British Columbia Marshals "Girl Forest Guards"

VANCOUVER, B. C.—Representatives of a new army will take to the field in British Columbia during the coming summer in the battle to prevent forest fires—an army of girls sponsored by Canadian Forestry Association.

The girls wil be recruited from high schools and their task will be similar to that of the Junior Forest Wardens, to do their utmost to "keep our forests green."

In preparation for recruiting of Girl Forest Guards this year, the Association for some time has been training a leader nucleus.

It is planned to form groups to study wordcraft, forestry, first aid, signalling, photography, mapwork, swimming and life-saving.

In charge of the program will be Mrs. Myring, wife of W. F. Myring, Chief Warden of the Junior Forest Wardens, with headquarters in Vancouver.

## Wisconsin River Gets Power Dam Rights

MADISON, Wis. — Wisconsin River Power Company has been authorized to build two hydroelectric dams on the Wisconsin River, the Wisconsin State Public Service Commission announced January 28. Estimated cost was given at $10,770,170, and approximately 38,000 acres of land will be flooded.

Authorization of the projects, known as the Petenwell dam, 3½ miles northeast of Necedah, and the Castle Rock dam, east of Mauston, was announced by the Commission, after hearings on the applications filed by the company.

The Petenwell dam, on which preliminary work was started late last summer, will cost $5,997,000 for dam and power installation. It will have a 42-foot head of water and flood 22,000 acres in Adams and Juneau counties northward to the Wood county line, with a flowage 19 miles long and two miles wide.

Castle Rock dam is estimated to cost $4,773,170, creating a 30-foot head and flooding 16,000 acres in Adams and Juneau counties, with a flowage of 13 miles on the Wisconsin River and 10 miles on the Yellow River.

The Public Service Commission also announced that it has approved the financing plan submitted by the company, which will issue $8,500,000 in first mortgage bonds at 2⅞% interest, to be purchased by the Northwestern Mutual Life Insurance Company, and $5,000,000 in common stock to be held in equal shares by Consolidated Water Power & Paper Company, Wisconsin Power & Light Company, and Wisconsin Public Service Corporation.

### Kimberly Mill Aims at Thirty-Year Record

KIMBERLY, Wis.—If the technical department at the Kimberly mill of Kimberly-Clark Corporation can keep its record clear until Saturday morning, February 7, it will observe its thirtieth year without a lost-time accident. A committee has been named to make plans for some sort of an observance, providing the goal is obtained.

The last accident in the department was on February 7, 1918, when a chemist received burns about his face. During the war while many of the department employes were in service, women took over the duties and continued to keep a safe record. A silver jubilee celebration was held in observance of the event in February, 1943, at which time several officials from Neenah attended. The department has 14 employes working in the laboratory, 4 in the print shop, 4 mill chemists and 22 men in the various control systems throughout the mill. Art Bellinghausen is the technical superintendent, and George Gerritts, technical foreman.

## paper parade . . .

Napoleon Bonaparte, it is said, offered a prize to the first man who could produce a continuous sheet of machine-made paper. The result of this offer was Louis Robert's invention of a machine later perfected by, and named for, the Fourdrinier brothers, two London paper-makers and inventors. The Fourdrinier machine revolutionized the paper-making industry.

# Bonaparte was baffled, the paper-maker proud!

The logical outgrowth of the invention of the Fourdrinier machine was the development of a machine which could produce a continuous sheet of fine *coated* paper.

High-quality machine coating, at the speed demanded by modern industry, calls for a high-grade Precipitated Calcium Carbonate.

Wyandotte Precipitated Calcium Carbonate, used as a pigment, provides high whiteness and brightness to the coated sheet. It is unsurpassed in freedom from grit and abrasiveness . . . in smoothness and uniformity . . . in hiding power and ink absorption.

The superiority of this highly refined chemical is the result of the years Wyandotte Chemicals Corporation has spent in furnishing Precipitated Calcium Carbonate to meet the exacting requirements of the paper industry. You benefit by the knowledge and expertness gained from this experience when you specify *Wyandotte Precipitated Calcium Carbonate.*

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REG. U. S. PAT. OFF.

## Tinker Sees Future Expanding Soundly

*(Continued from page 7)*

service industry, the paper industry in all its ramifications, is vitally affected by changes in the business cycle.

"Without attempting to project myself into the future, I would like to discuss with you two or three basic factors that are subject to current interest and I think some delusion. I would like to do this because I feel it essential that as nearly as possible factual understanding of the situation be had. I can think of nothing that would contribute more to the ironing out of ups and downs in our business.

"It is pretty well known that something over three million tons of additional capacity was planned for the years 1946, 1947 and 1948. During 1947 the annual capacity to produce was increased by an estimated 1,355,590 tons, of which 567,000 tons involved papermaking capacity. It is interesting to note that if the demand for paper were to continue as in 1947, all of this new capacity would be required to operate at a hundred percent ratio. If the business of the customers of the paper industry is not to fall off, then new and improved installations will only just about meet the national requirements.

"Looking back over a period of years, you will find that the paper industry has a normal growth factor of four percent per year. If circumstances interfere with the installation of new production facilities to meet this normal growth in demand, then shortages are bound to ensue. This, of course, is exactly what occurred during the war years. This situation has been recognized by the manufacturers of paper, as witnessed by the large investments in new capacity that have been made, and I think it is reasonable to expect that by the end of 1948 the industry will be in a position to meet heavy requirements for most grades of paper although, unless there is a material business slump, there does not appear to be a large excess of supplies.

"It is interesting to look at some of the basic figures that will inevitably affect the future demand for paper. Fundamental to the entire situation is per capita consumption. Per capita consumption of paper in this country is, of course, at a high record. Leaving out of consideration short periods of repressed or excessive demand, I see no reason to assume that the American people are faced with the lowering of their standards of living, of which the utilization of paper and paper products is one of the best indexes. I frequently read the statement that we still have one-third of our population ill-housed, ill-clothed and ill-fed. Whether or not this statement is true, it seems to me a foregone conclusion that over the next decade ever widening of higher educational standards will be attained. It seems to me that no one will question that standards of sanitation will rise. These two elements are basic in the

E. W. TINKER
Marshals facts on the future

demand for paper. If we assume that the rate of growth in consumption of paper will rise at a normal pace, set over the past decade or two, we could reach a maximum consumption of 400 pounds per capita by 1955. In my judgment this consumption figure may be increased by an extraordinary growth in the field of new uses.

"The Census Bureau forecasts that in the continental United States we will have a population of approximately 150 million people in 1955. I am informed that on the basis of recent figures this forecast is extremely conservative because of the abnormal growth that is currently taking place. If these figures are approximately correct, then we should attain a consumption of 30 million tons in 1955 as compared with approximately 25 million tons consumed in 1947. In other words, the industry could expect, in another 8 years, an increase in possible consumption of 5 million tons over the record of 1947. You will, of course, recognize the uncertainties in a picture of this kind if considered on a short time basis. However, I believe you will recognize that the trend is inevitable.

"May I emphasize that this analysis has been based upon long-range requirements and also that it has been based on well established growth factors which are by no means visionary. The fact of the matter is that on the basis of present data they are on the conservative side. You and I know of predictions with regard to the current rate of growth in new uses, particularly since the close of the war. We know of the tremendous spurt in the population growth figures. However, it is better that we look at matters of this kind with conservatism and judge them by known past experience. I have pointed out that the situation might easily vary with the ups and downs of business, but over the long haul the trend is almost certain.

"At the risk of being repetitious, I would like to discuss for a moment the future adequacy of fibre supplies to meet the national requirements for paper and paperboard. There is no reason why, over a period of years, this country should not become a large exporter of wood fibre. We have an enormous surplus of the basic required natural resource, which is forest land. This land can and will, in my judgment, produce sufficient wood not only to support our existing wood-using industries but to support any conceviable expansion of these industries.

"The United States Forest Service, in 1946, in a report covering "Potential Requirements for Timber Products in the United States," estimates our annual requirements for paper and paperboard by the time we reach the period 1950 to 1955, as 28 million tons. The same report indicates a required pulp production of 15,890,000 tons involving the utilization of 21,751,000 cords of pulpwood. Our current use is now running at approximately 18½ million cords a year.

"It is true that there probably will be temporary shortages of wood in different regions but the production of wood has become an economic enterprise and, as is usual, under our private enterprise system, there is a tremendous movement being undertaken on the part of the pulp and paper industry, as well as individuals, that will inevitably solve this problem.

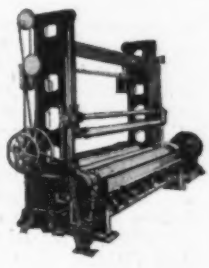
"In conclusion, I would like to leave you with something of my general conception of the future of the pulp and paper industry. In this picture I include not only the manufacturers of pulp and paper but the converters of the industry's products and its distributors. As time goes on there should grow in the United States a magnificent industry, capable of supplying public requirements for its products, which requirements will be on an increasing trend in the foreseeable future. Admitting the ups and downs in the business cycle, it is inconceivable that the trend will not be upward because the utilization of paper is one of the best indexes of the increasing standard of living that is bound to mark the advance of our civilization.

"The one great danger to the development of this industry is the environment in which it must live. Conditions can be created through governmental action that may stultify its growth and even encourage the industry's migration. I refer to the tax environment in which the industry must live. I refer to foreign competitive situations that can develop because of the high standard of living that the industry has created for its employees, and I refer to the almost constant harassment the industry is subjected to through proposed new legislation or regulations. However, I believe the development that I have envisioned will take place because in the final analysis it will be the Congress of the United States and not a bureaucratic structure that will either foster or stultify the development of the industry that should normally take place."

# Purr

**Superior design — solid construction enable your Langston Slitter and Roll Winder to "purr" along at high speeds. In Mill, Finishing Room or Converting Plant Langstons are delivering uniformly wound rolls of high quality. Ask for further details.**

**Samuel M. Langston Company,**
**Camden, New Jersey.**



# Langston

**SLITTERS AND ROLL WINDERS**

## International Marks Its First 50 Years

*(Continued from page 10)*

"More and more," he said, "wood pulp and paper are being recognized, not as ends in themselves but as beginnings—as materials out of which countless other things can be made.

He explained that the increasing use of dissolving wood pulp for the manufacture of rayon and other synthetic products was a reminder that once wood is reduced to a pure and stable chemical, it provides a base on which the chemist can build a hundred different products, and that for this reason the wood pulp and paper industry might tend more and more to join forces with the chemical industry.

"For example," he announced, "in the South, Arizona Chemical Corporation, owned jointly by International Paper Company and the American Cyanamid Company, is currently building a large chemical plant to take tall oil which is derived from the liquor that remains after wood is cooked, and which the company now markets in crude form, and separate it into its component parts—vegetable fats and rosins. Developments of this kind are of great potential significance."

Mr. Hinman later explained that the new refining plant is being erected at Panama City, Fla., to cost about $1,700,000 and scheduled to go into production about a year from now. The immediate use of the new process for refining the "tall oil," he said, will be to produce for industrial uses the vegetable fats and rosins in a purer form than it has ever before been possible to produce them from "tall oil." The new plant will have an annual maximum capacity to process approximately 22,000 tons of crude "tall oil," or roughly one-third of International Paper Company's annual output. Of the 22,000 tons which the plant will start processing early in 1949, the Company will obtain approximately half the amount of vegetable fats and half in rosins.

When combined with reagents, "tall oil" performs the same functions as many other oils such as linseed in the manufacture of paints and varnishes. It is also widely used in making disinfectants; many types of soaps and emulsifiers; in metal processing; in cutting and lubricating oils, core oils, textile processing oils, and other industrial products.

As a result of the new process to be used by the Panama City plant, Mr. Hinman said, the fields for application of both the vegetable fats and rosins thus separated will be greatly enlarged and upgraded because of their improved quality.

"It is also quite possible," he added, "that in the future such edible fats as are used in cooking and frying can be produced from U. S. forests for use in U. S. homes as a result of the progress we are making in developing the separation process for 'tall oil.' While the production of such footstuffs is now technically feasible, it is not yet known whether it would be economically efficient."

"One of the most significant developments in recent years," Mr. Hinman said, "has been the widespread acceptance in the United States and Canada of the fact that trees are a crop, that they can be grown as a crop, and that tree farms are as practical as farms for wheat, or corn, or cotton.

"International Paper companies in Canada and the northern United United States," Mr. Hinman explained, "grow as much wood as they consume. That means we are now growing close to 2-million cords of wood annually in Canada and the U. S. North. In the Southern states it is impossible to tell how close we are to being self-sustaining because we buy a substantial part of our wood from farmers and landowners, and we cannot estimate how their new growth compares with their annual cut.

"But our objective everywhere is to achieve a balance between growth and consumption now and in the future. In areas like the South, where we can always buy a large part of our wood from others, programs of education—especially among the young people who will be the farmers of tomorrow—are helping us to achieve our goal.

"The potentialities of good forest management," he said, "are tremendous. Fire, insects and disease are big consumers of wood. In the United States the wood pulp and paper industry consume about 17-million cords of wood a year but insects, disease and other natural forces alone destroy an average of 70-million cords a year.

"The prevention of forest fires is the Number One problem in the management of our forests. This is a public responsibility since they are principally caused by public carelessness, and their spread is not limited to the property of any individual. In 1946, for example, 20-million acres were burned in this country alone."

## British Columbia Progresses In Forest Fire Control

VANCOUVER, B. C. — Forest fires in British Columbia during 1947 cost a total of $309,230, $500,000 less than the annual average for the last ten years.

Breakdown of the total showed that the loss was made up of $167,193 for forest products destroyed, $9,140 for buildings, and $69,617 for logging and railway equipment.

The total loss was $357,980. The all-time low in forest fire loss was in 1943, when the total was $133,000.

Lightning continues as the greatest single cause of fires. It was blamed for 326 of the 1327 fires recorded.

Second greatest cause was railways, blamed for 265; while smokers came third with 245. Campers and travelers were reported as the cause for 193 fires.

# OBITUARY

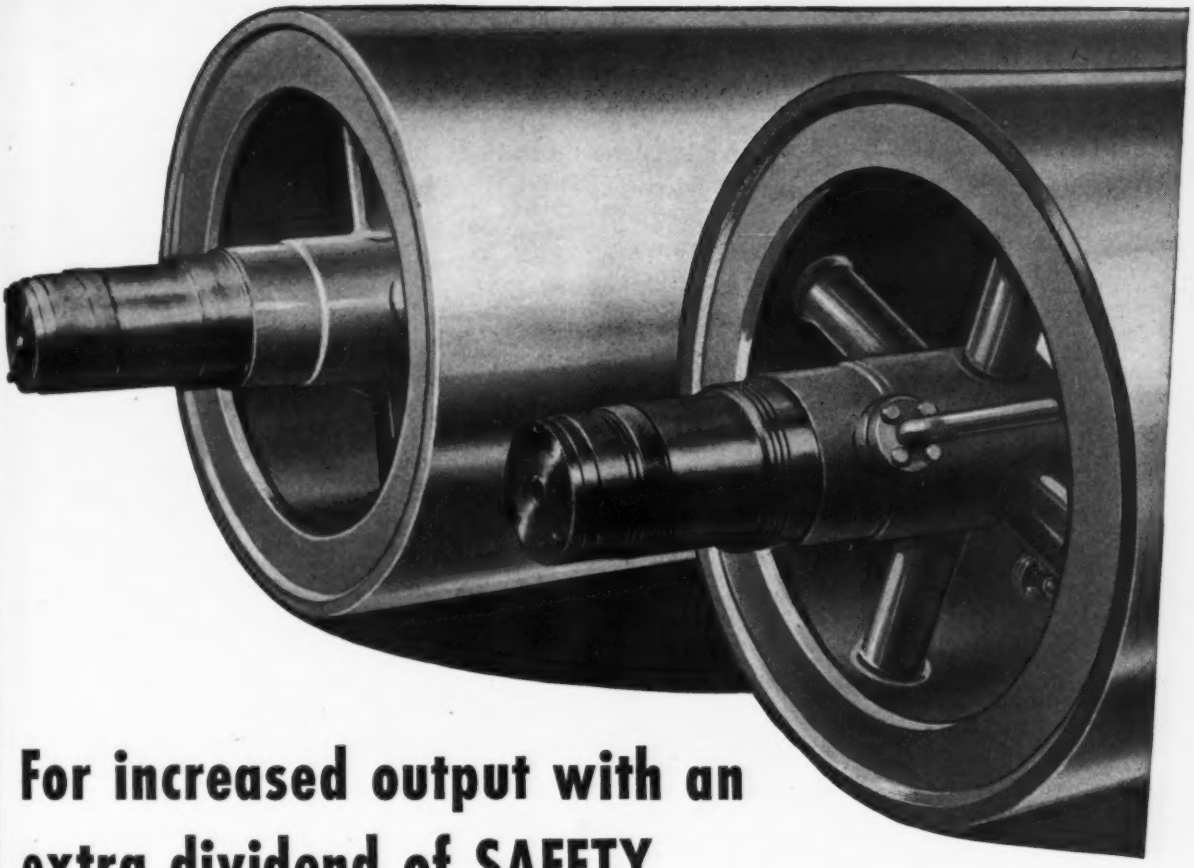
### William F. Butler

William F. Butler, 65, president of the Colonial Paper Company, Boston, died January 24 at the Carney Hospital, South Boston, after a short illness. His home was at 548 Brook Street, Milton, Mass. Mr. Butler started in the paper business in 1900. When the Colonial Paper Company was incorporated in April, 1946, he became president. He was very highly regarded for his ethics and square dealing with the trade. He was of a domestic nature, spending a great deal of time with his wife, a sister of William Dempsey, of the Century Paper Company, Inc., Boston, and his relatives. He was a modest man, shunning publicity, and endeared himself to a host of friends. For the last few years, he had passed his summers at Scituate, Mass., where he owned a cottage. His company is a member of the New England Paper Merchants Association. Mr. Butler was active in St. Vincent de Paul and the Holy Name Society. The funeral was held January 28 at St. Elizabeth's Church, Milton, with burial in St. Joseph's Cemetery, West Roxbury, Mass. His wife is living.

### Stanley H. Maynard

BOSTON — Stanley H. Maynard, 58, assistant vice-president in charge of promotion of H. D. Catty Corporation of New England, cellophane and aluminum foil, converters and processors, with office and factory at 49 Portland Street, Boston, died suddenly of thrombosis January 27 at his home, 98 Reservation Road, Milton, Mass. A native of Lancaster, Mass., he came to Boston in 1908 and had lived in Milton for the last 20 years. Formerly a salesman for the Hayes-Bartlett Company, New York, bookbinders' supplies, he had been with the Catty corporation for more than 25 years, joining the firm in April, 1922. He was manager of the Boston office and assistant treasurer of the New England corporation until January 1, 1947, when he was promoted to assistant vice-president in charge of promotion. The work of his new position took him to all the cities where the company's factories are located, to the main plant at Norwalk, Conn., and others in Buffalo, Chicago, New York and Philadelphia, and to offices of customers and prospective customers.

Mr. Maynard, highly regarded by all, was a member of the Master Bakers Association of Greater Boston, the Milton Post of the American Legion (World War I), Milton Lodge, A.F. and A.M., and the East Congregational Church of Milton. His wife, formerly Annie K. Jameson, and a brother, Forrest J. Maynard, superintendent of streets and town engineer of Milton, are living.



# For increased output with an extra dividend of SAFETY

You can get increased production from Lukenweld Jacketed Drier Rolls. In addition, you can be sure these steel plate rolls are *safe.*

In a large paper mill, Lukenweld Drier Rolls recently replaced several cast-iron rolls which had been destroyed by the explosion of another roll. Typical of a trend in the insurance field, the insurer of this paper manufacturer recognizes the safety of steel plate construction.

Numerous installations of Lukenweld Jacketed Drier Rolls have proved their safety while the drying rate has been stepped up 15 to 25 per cent with no increase in steam pressure. When steam pressures are increased, drying rates can be stepped up as much as 50%. High strength of rolled steel plate permits safe operation at pressure of 350 psi. and higher. Sizes from 2 ft. O.D. to over 18 ft. O.D. are offered.

Get the complete story about Lukenweld Jacketed Drier Rolls. Write for Bulletin 358. Lukenweld, Division of Lukens Steel Company, 403 Lukens Building, Coatesville, Pa.

***"Lukenweld Jacketed Drier Rolls for More Production."***

**(PATENTS APPLIED FOR)**

**LUKENS**
LUKENWELD DIVISION

**LUKENWELD**
**DRIER ROLLS AND DRYING MACHINERY**

# IMPORTS

## NEW YORK IMPORTS

WEEK ENDING JANUARY 31, 1948

SUMMARY

| | |
|---|---|
| Newsprint | 6760 rolls |
| Wallpaper | 3 cs. |
| Printing Paper | 6 cs. |
| Wrapping Paper | 107 bls., 71 rolls |
| Coated Paper | 32 cs. |
| Packing Paper | 50 bls. |
| Sulphite Paper | 382 rolls |
| Miscellaneous Paper | 241 rolls |

### NEWSPRINT

N. Y. Journal American, Markland, Liverpool, N. S., 818 rolls.
N. Y. Herald Tribune, Markland, Liverpool, N. S., 1538 rolls.
N. Y. World Telegram, Markland, Liverpool, N. S., 434 rolls.
Brooklyn Eagle, Markland, Liverpool, N. S., 686 rolls.
Herald Statesman, Inc., Markland, Liverpool, N. S., 42 rolls.
Price & Pierce, Ltd., Markland, Liverpool, N. S., 225 rolls.
Washington Post, (Alexandria, Va.), Markland, Liverpool, N. S., 2679 rolls.
Washington Daily News, (Alexandria, Va.), Markland, Liverpool, N. S., 27 rolls.
Arlington Sun, (Alexandria, Va.), Markland, Liverpool, N. S., 26 rolls.
Journal Gazette Co., (Fort Wayne, Ind.), Southland, Rotterdam, 285 rolls.

### WALLPAPER

American Express Co., De Grasse, Havre, 3 cs.

### PRINTING PAPER

Wedeman & Godknecht, Bloomersdyk, Antwerp, 6 cs.

### WRAPPING PAPER

Public National Bank Trust Co., Mormacmail, Gothenburg, 33 bls.
Corn Exchange Bank Trust Co., Mormacmail, Gothenburg, 71 rolls.
Manufacturers Trust Co., Mormacmail, Gothenburg, 74 bls.

### COATED PAPER

F. P. Gaskell Co., Inishowen Head, Glasgow, 32 cs. (for cigarette tips).

### PACKING PAPER

J. P. Hefernan Paper Co., Iraq Victory, Genoa, 50 bls.

### SULPHITE PAPER

J. B. Lynch, Mormacmail, Gothenburg, 358 rolls (glazed white).
Bleyco Paper Corp., Mormacmail, Gothenburg, 24 rolls (uncleached white).

### MISCELLANEOUS PAPER

Green Kriegsman Paper Co., Mormacmail, Gothenburg, 162 rolls.
Bank of The Manhattan Co., Mormacmail, Gothenburg, 79 rolls.

### RAGS, BAGGINGS, ETC.

Empire Fiber Co., Mindoro, Shanghai, 100 bls. cotton waste.
New England Waste Co., City of Chelmsford, Tuticorin, 100 bls. cotton waste.
Royal Manufacturing Co., Blommersdyk, Antwerp, 72 bls. cotton waste.
Williamson Northrup, Bowrio, Santos, 305 bls. cotton waste, 22 bls. cotton thread waste.
E. J. Keller Co., Inc., Iraq Victory, Bombay, 340 bls. old jute rags.
New England Waste Co., Iraq Victory, Bombay, 50 bls. old jute rags, 75 bls. cotton waste.
Padawer Trading Co., Iraq Victory, Bombay, 200 bls. cotton waste.
Green Textile Associates, Inc., Iraq Victory, Bombay, 100 bls. cotton waste.
(———), Rutland Victory, Bombay, 67 bls. old jute rags.
Castle & Overton, Inc., Rutland Victory, Bombay, 275 bls. old jute rags.
Tradesmans National Bank Trust Co., Rutland Victory, Bombay, 50 bls. cotton waste.
Brandwein Mazur Co., Rutland Victory, Bombay, 200 bls. cotton waste.
New England Waste Co., Rutland Victory, Bombay, 857 bls. cotton waste.
Schimmel Corp., Rutland Victory, Bombay, 200 bls. cotton waste.
Volkart Bros., Rutland Victory, Bombay, 202 bls. cotton waste.
Midwest Waste Material Co., Southland, Antwerp, 116 bls. old bagging, 128 bls. rags.
A. De Vries Trading Corp., Southland, Antwerp, 103 bls. old bagging.
Riverside Mills, Southland, Antwerp, 113 bls. cotton picker waste.
Textile & Paper Supply Corp., Mormacreed, Buenos Aires, 235 bls. cotton waste.
J. Eisenberg, Mormacreed, Montevideo, 5 bls. rags.

### OLD ROPE

(———), Malancha, Calcutta, 65 bls. old hemp rope cuttings.

### CASEIN

Hercules Powder Co., Bowgran, Buenos Aires, 4000 bags (lactic).
Inter Maritime Forwarding Co., Bowgran, Buenos Aires, 500 bags (lactic).
Tupman Thurlow Co., Bowgran, Buenos Aires, 2000 bags (ground lactic).
Philadelphia National Bank, Norlandia, Buenos Aires, 127 bags.
F. H. Paul & Stein Bros., Mormacreed, Buenos Aires, 1042 bags (ground lactic).
American Cyanamid Co., Mormacreed, Buenos Aires, 1600 bags.

### WOODPULP

Price & Pierce, Ltd., Markland, Liverpool, N. S., 2484 bls. unbleached sulphite pulp.
Thomas Paper Mills, Mormacmail, Gothenburg, 600 bls. bleached sulphite pulp.
Price & Pierce, Ltd., Mormacmail, Gothenburg, 750 bls. wet strong sulphite pulp.

## BOSTON IMPORTS

WEEK ENDING JANUARY 31, 1948

New England Waste Co., Rutland Victory, Bombay, 100 bls. cotton waste.
S. H. Waldestein, Rutland Victory, Bombay, 100 bls. cotton waste.
Empire Fiber Co., Mindoro, Shanghai, 100 bls. cotton waste.

## PHILADELPHIA IMPORTS

WEEK ENDING JANUARY 31, 1948

Elof Hansson, Inc., Exiria, Trieste, 1275 bls. woodpulp.
Pagel Horton & Co., Inc., Mormacmail, Gothenburg, 2822 bls. dry sulphite pulp.
Philadelphia National Bank, Mormacmail, Gothenburg, 99 rolls paper.
Klein Bros. Paper & Twine Co., Mormacmail, Gothenburg, 1166 rolls paper.

## NORFOLK IMPORTS

WEEK ENDING JANUARY 31, 1948

Elof Hansson, Inc., Gainesville Victory, Rotterdam, 33 rolls newsprint.

## BALTIMORE IMPORTS

WEEK ENDING JANUARY 31, 1948

Pagel Horton & Co., Inc., Mormacmail, Gothenburg, 3658 bls. dry sulphite pulp.
Elof Hansson, Inc., Mormacmail, Gothenburg, 63 bls. dry viscose rayon pulp.

## Powell River Passes Previous Safety Record

VANCOUVER, B. C. — All-time safety record in the Powell River Company mill was chalked up January 16. The 35th day without an accident was chalked up, with January's safety campaign now at the half-way mark. Aim of the safety drive, the second one to be conducted in the district, is to make January a completely accident-free month.

"Dressing cases have reached a new low also in the mill," stated Rex Needham, assistant safety supervisor.

Success of the July effort prompted this second "bigger and better" campaign and it is now planned to hold safety drives twice a year. Already nearly 200 slogans have been submitted for the campaign next July, with entries coming from residents from Lund and Stillwater. First prize is $25, second $10 and there are five awards of $5 each.

# AVOID PITCH TROUBLE EASILY

## Just add CELITE to the beater

YOU can keep your wires clear with only a small quantity of Celite*—about 1 lb. to every 100 lbs. of paper pulp. The Celite disperses through the furnish, coats the free pitch and destroys its stickiness. The machine keeps running and paper quality stays up.

You're actually saving money when you use Celite because (1) Celite helps maintain production and quality—this alone compensates for its low cost . . . (2) Celite becomes part of the paper and its cost is largely recovered when the paper is sold.

*Reg. U.S. Pat. Off.

For full technical data on how to use Celite for pitch control, write Johns-Manville, Box 290, New York 16, New York.

JOHNS-MANVILLE JM PRODUCTS

Johns-Manville

CELITE PRODUCTS *for the paper industry*

# TRENDS

Office of the PAPER TRADE JOURNAL
Wednesday, February 4, 1948.

Since Science has done nothing yet about the weather, it still is true that "it's an ill blizzard that blows nobody good"; and the inevitable result of the severe winter which is gripping the entire country is a strong waste paper market with worsening supply conditions and strong and rising prices. Particularly is this evident on folded news and old corrugated, supplies of which are almost unobtainable. Prices paid by brokers for news were said to be $18 and $19 a ton, and for old corrugated $27 and $28, f.o.b. cars. Old Corrugated becomes increasingly strong despite a reported softening in the kraft pulp market, while the steady demand and diminished collections put folded news in an elect position in all big trading centers with dealers reported uninterested even in taking orders for so scarce an item. Books and all high grades likewise occupy prime positions and prices are strong. Boston reports shipments from the West Coast at prices well above the local market.

Mills are anticipating better packing as a result of the new increase in railroad freight rates with minimum weight clauses still in effect. Shippers are being required to observe minimum weight rulings and a charge is being made for the difference between the actual loaded weight and the fixed minimum. Thus big, solid well-packed bales of waste paper are finally being achieved, and the mills are said to like the "new look."

Similarly weather conditions effected a strong market for cotton rags as collections continued to drop off to the point of unavailability. Trading is restricted by lack of supply, particularly on mixed rags, and the market has an exceptionally firm tone on all grades. Roofing rags are particularly strong with advances of $3.00 a ton reported on No. 2 in New York, and dealers are paying $37 and $38 for that grade. Demand from felt mills continues strong with supplies limited and prices the inevitable high. Boston reports top price of $42 for No. 2 with supplies paralyzed by weather conditions.

New cottons show no indication of greater supply, but since the demand is continuing slow movement, prices are unchanged. The market is reported as quiet with mills not taking any more than they actually require; and while limited supplies of high grades are freely absorbed and prices of all types remain unchanged, there appeared indications of a buyer's market developing.

Weather aggravated conditions surrounding old bagging, and what could be had was freely taken up. Prices are extremely firm and reported as nominal.

Notice that the government will resume its payments to stimulate the use of virgin cotton in paper manufacture to the extent of two cents a pound was received in the rag-content field and pigeon-holed. Until details are worked out and made public by the Department of Agriculture, it is impossible for the trade to hazard a guess as to its effect on the already softened rag-content field, also the new cuttings market. Much can depend on the price at which the new cotton is marketed.

* * *

It is stated by the Canadian Pulp and Paper Association that out of every dollar spent for newsprint in the first eleven months of 1947, 19.2c went to direct labor in mills and offices and 28½c to provide wood, a total of over 38c out of every dollar that came in.

* * *

### Trends Worth Watching

Kraft pulp is reported as being somewhat softer although prices are holding.

More sulphite paper is being made available through additional capacity of integrated mills. A two-priced structure is slowly evolving in this field as a result of differing pulp costs to integrated and non-integrated mills, some of which latter also are unable to maintain full production for want of pulp.

Ample inventories on some items were built by many dealers out of 1947's record production, some of which are requiring merchandising efforts to move. Will these items seek an export market?

That this condition does not prevail in the tissue market is particularly apparent in the supply of toilet tissue where prices have taken a sharp increase and stock is even more scarce than when last reported, this despite production figures in the tissue field as being 10 percent ahead for the first eleven months of 1947.

Supply-demand of paperboard and products is reported to be in balance with new 1948 capacity expected to come into production.

Railroad freight boost of ten percent, higher prices for woodpulp—in overseas supplies particularly—and rising cost-of-living wages on new contracts to be effected shortly, must be reflected in higher prices of paper to the consumer.

No changes are reported contemplated in the Eastern Conservation Committee's service to the waste paper industry and to the waste paper consuming industries, as the committee restated its policy to assist in the organization and maintenance of collections upon request.

Open-mesh bags made of cotton and paper are meeting with amazing popularity particularly in self-service markets where the consumer expresses her satisfaction at seeing the contents of the prepacked bags of fruit and vegetables.

The jute industry registers its concern over the trend from burlap to paper sacks and feels it must initiate a program to recoup its losses.

### Index

The index of general business activity for the week ended January 24 receded to 156.1 from 158.2 in the preceding week, compared with 148.5 for the corresponding week of 1947. The index of paperboard production declined to 190.5 from 195.5 in the preceding week, compared with 176.1 in the corresponding week of 1947.

Paper production for the week ended January 24 was estimated at 101.7 compared with 99.9 (revised figure) for the previous week, with 103.7 for the corresponding week of 1947, with 94.5 for 1946, and with 88.4 for the for the corresponding week of 1945.

Paperboard production for the week ended January 24 was 104.0 percent of capacity, compared with 104.0 for the previous week, with 101.0 for the corresponding week of 1947, with 94.0 for 1946, and with 95.0 for the corresponding week of 1945.

## Hanson Shipment Opens New Norfolk Pier

NEW YORK—When the *S. S. Britta* steams into the harbor of Norfolk, Va., on about the 9th of February, her entrance into that port will mark another step in the return to trade normalcy. The *S. S. Britta* will be carrying a full load of wood pulp, 8,500 long tons, which is the first such shipload to enter the harbor of Norfolk since the termination of World War II. This tonnage is destined for Elof Hansson, Inc., a pulp and paper exporting firm of this city.

The *Britta* left Utansjo, Sweden, on January 24th and will be unloading at the Norfolk and Western Railroad's newly completed $6 million merchandise freight pier, Pier N. The pier will be officially opened after the *Britta's* arrival, on February 12th, at which time many dignataries, including such well-known figures as Secretary of Commerce W. Averill Harriman, Secretary of Agriculture Clinton P. Anderson, and the Governor of Virginia will be present.

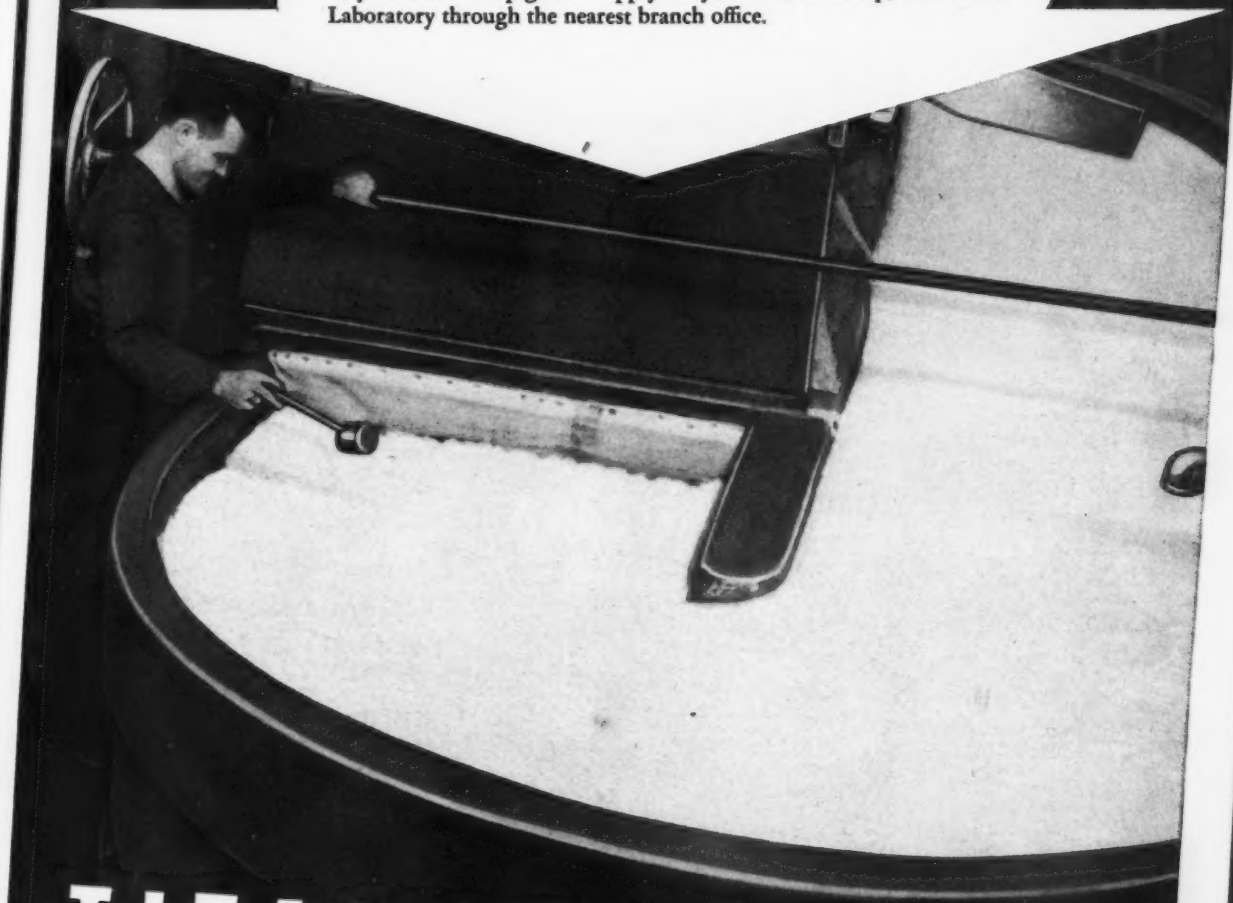
**TITANOX** . . . *the brightest name in titanium pigments*

# Titanox pigments *Here* give paper OPACITY-WHITENESS-BRIGHTNESS

When you add TITANOX pigments to the pulp, you're sure of getting paper that will be opaque, white and bright.

Many paper manufacturers know that a minimum of these versatile pigments gives a maximum of desirable qualities. That's why they use the TITANOX line to produce a paper that will be free from "show-through" And also to obtain the whiteness and brightness that customers prefer because of resulting good looks and better printability.

Though the supply of TITANOX is limited, perhaps our Technical Service Laboratory may be able to show you how to get the most out of your available pigment supply. If you wish this help, contact the Laboratory through the nearest branch office.



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SOLE SALES AGENT

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5285

# PRICES

With the elimination of price controls on paper, pulp, rags and other materials, the quotations given below once more become indicative of trends in an open market. At the moment they can be of little more, for, while some volume business still is being done under contract at the figures given below, fluctuations representing special conditions are too varied and too frequent to permit prices to be given as representing a wholly stabilized market.

## Paper

(Delivered New York)

Standard News, per ton—

| | | | |
|---|---|---|---|
| Rolls, contract | $91.00 to | | $96.00 |
| Sheets | 102.50 " | | 109.00 |

Kraft—per cwt.—Carload Quantities

Zone A Deld. 40 lb. base wgt.

| | | | |
|---|---|---|---|
| Superstandard Wrapping | $9.00 | to | — |
| No. 1 Wrapping | 7.25 | " | 8.00 |
| Standard Wrapping | 6.50 | " | — |
| Standard Bag | 6.50 | " | — |

Tissues—Per Ream 24x36 (480) 11 lb Zone 1.

| | | | |
|---|---|---|---|
| Wh. No. 1 Frd. | $1.84 | to | $2.00 |
| Wh. No. 1 M. G. | 1.94 | " | 2.00 |
| Wh. No. 1½ | 1.60 | " | — |
| Wh. No. 2 | 1.75 | " | — |
| Kraft Anti-Tar | 1.65 | " | — |
| Kraft Unbl. | 1.85 | " | — |
| Manila No. 1 | 1.62 | " | — |
| Shred. Wh. No. 1 cwt. | 1.10 | " | 1.50 |

Toilet Per Case of 100 rolls 1 lb Sheets.

| | | | |
|---|---|---|---|
| Unbleached | $8.50 | to | $10.00 |
| Bleached | 8.50 | " | 10.00 |

Paper Towels—Per Case of 3750—Zone 1

| | | | |
|---|---|---|---|
| Wh. Jr. M'tif'd 9¼x9½ | | | $5.15 |
| Br. Sr. M'tif'd 10x12 | | | 3.60 |
| Br. Jr. M'tif'd 9½x9¾ | | | 3.10 |
| Br. Jr. Sgl. fold 10 x10¾ | | | 3.15 |

Manila—per cwt.—C-l. f.a.

| | | | |
|---|---|---|---|
| No. 1 Jute Tag | $14.50 | to | — |
| Reg. Jute Manila | 13.25 | " | $15.50 |
| No. 1 Manila | 9.75 | " | — |

Boards, per ton—

| | | | |
|---|---|---|---|
| Plain News | $92.50 | " | — |
| Filled News | 94.00 | " | — |
| Plain Chip | 90.00 | " | — |
| Sgl. Mla. J-d. Chip* | 100.00 | " | 102.50 |
| White Pat. Coated* | 120.00 | " | — |
| Kraft Liners 42 lb. | 100.00 | " | — |
| Kraft Corr. .009 | 105.00 | " | — |
| Binders Boards | 126.00 | " | — |

* Base Prices per 10 tons. Less than 10 tons but over 3 tons, add $2.50; three tons or less, add $5; regular 35-39 basis, add $5; basis 40-49, add $2.50; basis 91-100, add $2.50; basis 101-120, add $5.

The following prices are representative of distributors' resale prices, all deliveries in Zone 1: Rag Content Bonds and Ledgers—

White, Assorted Items

Bonds, per cwt.

| | Carton 4 C't's | Ton |
|---|---|---|
| 100% Rag Ext. No. 1 | $55.00 $50.80 | $48.70 |
| 100% Rag | 48.25 44.55 | 42.70 |
| 75% Rag | 37.50 34.55 | 33.10 |
| 50% Rag | 32.25 29.40 | 28.25 |
| 25% Rag | 28.75 26.15 | 25.10 |

Ledgers, per cwt.

| | | | |
|---|---|---|---|
| 100% Rag Ext. No. 1 | $55.00 | $50.80 | $48.70 |
| 100% Rag | 48.25 | 44.55 | 42.70 |
| 75% Rag | 37.50 | 34.55 | 33.10 |
| 50% Rag | 32.25 | 29.40 | 28.25 |
| 25% Rag | 28.75 | 26.15 | 25.10 |

Sulphite Bonds and Ledgers—

White, Assorted Items

Bonds, per cwt.

| | | | |
|---|---|---|---|
| No. 1 | $21.25 | $19.25 | $18.50 |
| No. 2 | 20.25 | 18.30 | 17.55 |
| No. 4 | 19.25 | 17.55 | 16.85 |

Ledgers, per cwt

| | | | |
|---|---|---|---|
| No. 1 | $21.75 | $19.65 | $18.85 |
| No. 2 | 20.75 | 18.75 | 18.05 |
| No. 4 | 20.00 | 18.10 | 17.35 |

Free Sheet Book Papers—

White, Cased Paper

| (Per cwt.) | Case | Ton |
|---|---|---|
| No. 1 Glossy Coated | $20.40 | $19.50 |
| No. 2 Glossy Coated | 19.15 | 18.30 |
| No. 3 Glossy Coated | 18.40 | 17.60 |

| (Per cwt.) | Case | Ton |
|---|---|---|
| No. 1 Antique (Watermarked) | $15.90 | $15.15 |
| No. 2 Offset | 15.15 to 17.90 | 14.60 to 17.10 |
| A Grade E. F. | 14.90 | 14.25 |
| A Grade S. & S. C. | 15.40 | 14.65 |
| B Grade E. F. | 13.90 | 13.30 |
| B Grade S. C. | 14.40 | 13.70 |

## Wood Pulp

Domestic mill contract prices delivered with varying freight allowances.

| | Per Short ADT |
|---|---|
| Groundwood | $80.00 to $81.00 |
| Unbleached Sulphite | 124.00 " — |
| Bleached Sulphite | 125.00 " 135.00 |
| Bleached Soda | 130.00 " — |
| Bleached Sulphate | 175.00 " 185.00 |
| Unbleached Sulphate Northern | 125.00 " 155.00 |
| Unbleached Sulphate Southern | 130.00 " 145.00 |

### Canadian Quotations

Prices delivered with varying freight allowances unless otherwise specified:

| | Per Short ADT |
|---|---|
| Reg. No. 1 Kraft | 125.00 " — |
| Unbleached Sulphite | 125.00 " 126.00 |
| Bleached Sulphite | 125.00 " 135.00 |
| Glassine Unbleached Sulphite (no freight allowance) | 120.00 " — |
| Bleached Soda | 130.00 " — |
| Groundwood | 80.00 " 85.00 |
| Sideruns Pulping News | 80.00 " — |
| Hardwood and Specialty Grades | Nominal |

### Swedish Quotations

On dock, Atlantic Ports

| | Per Short ADT |
|---|---|
| Bleached Kraft | 175.00 " 185.00 |
| Bleached Sulphite | 175.00 " 185.00 |
| Unbleached Sulphite | 145.00 " 175.00 |
| Unbleached Kraft | 140.00 " 165.00 |

### Finnish Quotations

On dock, Atlantic Ports

| | Per Short ADT |
|---|---|
| Bleached Sulphite | $185.00 to — |
| Unbleached Sulphite | 155.00 " 157.00 |
| Unbleached Sulphate | 147.50 " — |

## New Domestic Cotton Cuttings

(F.O.B. Shipping Point Plus Dealer's Commission)

| | | |
|---|---|---|
| White Shirt | $12.00 to | — |
| Light Silesias | 9.00 " | — |
| Unbleached Muslin | 12.00 " | — |
| White Back Blue Overalls | 9.00 " | 9.25 |
| Blue Overalls | 8.00 " | — |
| Fancy Shirt | 6.00 " | — |
| Light Percales | 8.50 " | — |
| Light Prints | 7.50 " | — |
| No. 1 Washables | 5.00 " | — |
| Bleachable Khaki | 7.00 " | 7.50 |
| Unbleachable Khaki | 6.00 " | 6.50 |
| Cottonades | 5.50 " | 5.75 |

## Old Domestic Cotton Rags

(F.O.B. Shipping Point Plus Dealer's Commission)

| | Per 100 lbs. |
|---|---|
| No. 1 Whites Repacked | $5.00 to — |
| No. 1 Whites Miscellaneous | 4.00 " — |
| No. 2 Whites Repacked | 3.50 " 3.75 |
| No. 2 Whites Miscellaneous | 3.00 " — |
| Blue Overalls | 3.75 " — |
| Thirds and Blues Repacked | 3.25 " — |
| No. 1 Roofing Rags | 1.90 " — |
| No. 2 Roofing Rags | 1.75 " — |
| No. 3 Jute Bagging | 1.60 " — |
| No. 4 Brussels and hard back carpets | 1.60 " — |
| No. 5A Roofing Rags | 1.80 " — |

## New Foreign Cotton Cuttings

(Prices to Mill, F.O.B. Dock, N. Y.)

| | Per 100 lbs. |
|---|---|
| New Dark Cuttings | $5.50 to $5.75 |
| New Mixed Cuttings | 6.25 " 6.50 |
| Light Silesias | 9.25 " 9.50 |
| Light Flannelettes | 9.25 " 9.50 |
| New White Cuttings | 12.00 " — |
| New Unbleached Cuttings | 12.25 " — |
| Fancy Shirt Cuttings | 6.50 " 7.00 |
| Light Prints | 7.75 " 8.00 |
| Bleachable Khaki, No. 1 | 7.00 " 7.50 |
| Unbl. Khaki, No. 1 | 6.25 " 6.75 |

## Old Foreign Rags

(Prices to Mill, f.o.b. dock, N.Y.)

| | Per 100 lbs. |
|---|---|
| No. 1 White Linens | $14.00 to 16.00 |
| No. 2 White Linens | 12.00 " 13.00 |
| No. 3 White Linens | 8.00 " 9.00 |
| No. 4 White Linens | 8.00 " 9.00 |
| No. 1 White Cottons | 8.00 " 10.00 |
| No. 2 White Cottons | 7.00 " 8.00 |
| No. 3 White Cottons | 6.00 " 6.50 |
| No. 4 White Cottons | 4.00 " 4.50 |
| Extra Light Prints | 7.50 " 8.00 |
| No. 1 New Light Prints | 6.25 " 6.75 |
| Med. Light Prints | 5.25 " 5.75 |
| Dutch Blue Cottons | 5.25 " 5.50 |
| Checks and Blues | 4.00 " 4.25 |
| Linsey Garments | 3.00 " 3.75 |
| Dark Cottons, European | 2.20 " 2.60 |
| Dark Cottons, Egyptian | 1.75 " 2.00 |
| Old Shopperies | 2.50 " 3.00 |
| New Shopperies | 2.50 " 3.00 |

## Bagging

(Prices to Mill, f.o.b. N. Y.)

| | Per 100 lbs |
|---|---|
| Foreign Gunny, No. 1 | $5.75 to $6.00 |
| Domestic Gunny, No. 1 | 6.25 " 6.50 |
| Light Wool Tares | 6.00 " 6.25 |
| Heavy Wool Tares | 6.00 " 6.25 |
| No. 1 Scrap Bagging | 6.00 " 6.25 |
| Foreign Manila Rope | 6.00 " 6.75 |
| Domestic Manila Rope | 5.75 " 6.50 |
| Jute Strings | 5.00 " 5.25 |
| No. 1 Sisal Strings | 5.25 " 5.50 |
| Mixed Strings | 1.75 " 2.50 |
| Mixed Strings, Outthrows | .90 " 1.10 |

## Waste Paper

Base Prices to Mills for Average Packings

(Dollars Per Ton)

F.o.b. New York, Baled

| | |
|---|---|
| No. 1 Hard White Envelope Cuts, one cut | 155.00 to 165.00 |
| No. 1 Hard White Envelope Cuts | 145.00 " 155.00 |
| No. 1 Hard White Shavings, unruled | 145.00 " 155.00 |
| No. 1 Hard White Shavings, ruled | 110.00 " 130.00 |
| Soft White Shavings, one cut | 145.00 " 155.00 |
| No. 1 Soft White Shavings | 135.00 " 145.00 |
| Soft White Shavings, Misc. | 125.00 " 135.00 |
| No. 1 Fly Leaf Shavings | 45.00 " — |
| No. 1 Groundwood Fly Leaf Shaving | 35.00 " — |
| No. 1 Heavy Books & Magazines | 27.00 " — |
| Mixed Books | 15.00 " 20.00 |
| No. 1 White Ledger | 85.00 " 90.00 |
| New Manila Envelope Cuttings, one cut | 100.00 " 110.00 |
| New Manila Envelope Cuttings | 65.00 " 75.00 |
| Extra Manilas | 25.00 " 30.00 |
| Mixed Kraft, Env. & Bag Cuttings | 75.00 " 85.00 |
| Kraft Envelope Cuttings | 110.00 " — |
| Triple Sorted, No. 1 Brown Soft Kraft | 65.00 " 75.00 |
| New Kraft Corrugated Cuttings | 85.00 " 90.00 |
| No. 1 Assorted Old Kraft | 55.00 " 60.00 |
| New Jute Corrugated Cuttings | 27.00 " — |
| Old 100% Kraft Corrugated Containers | 45.00 " 50.00 |
| No. 1 News | 15.00 " 17.00 |
| No. 1 Mixed Paper | 11.00 " 13.00 |
| Box Board Cuttings | 12.00 " 14.00 |
| White Blank News | 75.00 " 80.00 |
| Overissue News | 18.00 " 20.00 |
| Old Corrugated | 25.00 " 27.00 |
| Mill Wrappers | 22.00 " 25.00 |

## Twines

All Prices Nominal, F.o.b. Mill

(Soft Fiber)

| | | | |
|---|---|---|---|
| Coarse Polished— | | | |
| India | .33¾ | to | .35 |
| Fine India | .38¾ | " | .42½ |
| Fine Polished— | | | |
| Unpolished— | | | |
| Paper Makers | .28¾ | " | .30¾ |
| Tube Rope | .29 | " | .31½ |
| Wrapping | .32 | " | .35¾ |
| Cotton | .63¾ | " | .66¾ |

(Hard Fiber)

| | | | |
|---|---|---|---|
| Mex. Sisal | .21 | " | .27 |
| Manila (Reprocessed) | .30 | " | .32 |

(American Hemp)

| | | | |
|---|---|---|---|
| Polished Hemp | .36¾ | " | .60 |
| Unpolished | .32¾ | " | .54 |

# PHILADELPHIA

## Domestic Rags (New)

(F.O.B. Eastern Shipping Point)

| | | | |
|---|---|---|---|
| Shirt Cuttings— | | | |
| New White No. 1 | .11 | to | .12 |
| New White No. 2 | nominal | | |
| Light Silesias | .07½ | " | .08 |
| Black Silesias, soft | .06½ | " | .07 |
| New Unbleached | .10½ | " | .11¼ |
| Washable Prints | .06½ | " | .07 |
| Washable No. 1 | .05 | " | .05½ |
| Blue Overall | .07¾ | " | .08 |
| Cottons—According to grades— | | | |
| Washable Shredding | .03½ | " | .04 |
| Fancy Percales | .06¼ | " | .07¼ |
| New Black Soft | nominal | | |
| Khaki Cuttings— | | | |
| Unbleachable Cotton Cuttings | .06 | " | .06½ |
| Bleachable Cotton Cuttings | .07 | " | .07¼ |
| Men's Corduroy | .05½ | " | .06 |
| Ladies' Corduroy | .05 | " | .05½ |
| Cottonades | .05¼ | " | .06 |

## Domestic Rags (Old)

(F.O.B. Eastern Shipping Point)

| | |
|---|---|
| White No. 1—Repacked | 4.50 to 5.00 |
| Mixed White | 4.00 " 4.35 |
| White No. 2—Repacked | 3.50 " 3.75 |
| Thirds and Blues— | |
| Miscellaneous | 2.25 " 2.50 |
| Repacked | 2.75 " 3.00 |
| Roofing Stock— | |
| Foreign No. 1 | nominal |
| Domestic No. 1 | 1.85 " 1.90 |
| Domestic No. 2 | 1.75 " 1.80 |
| Roofing Bagging | 1.65 " 1.70 |
| Old Manila Rope | 6.25 " 6.50 |

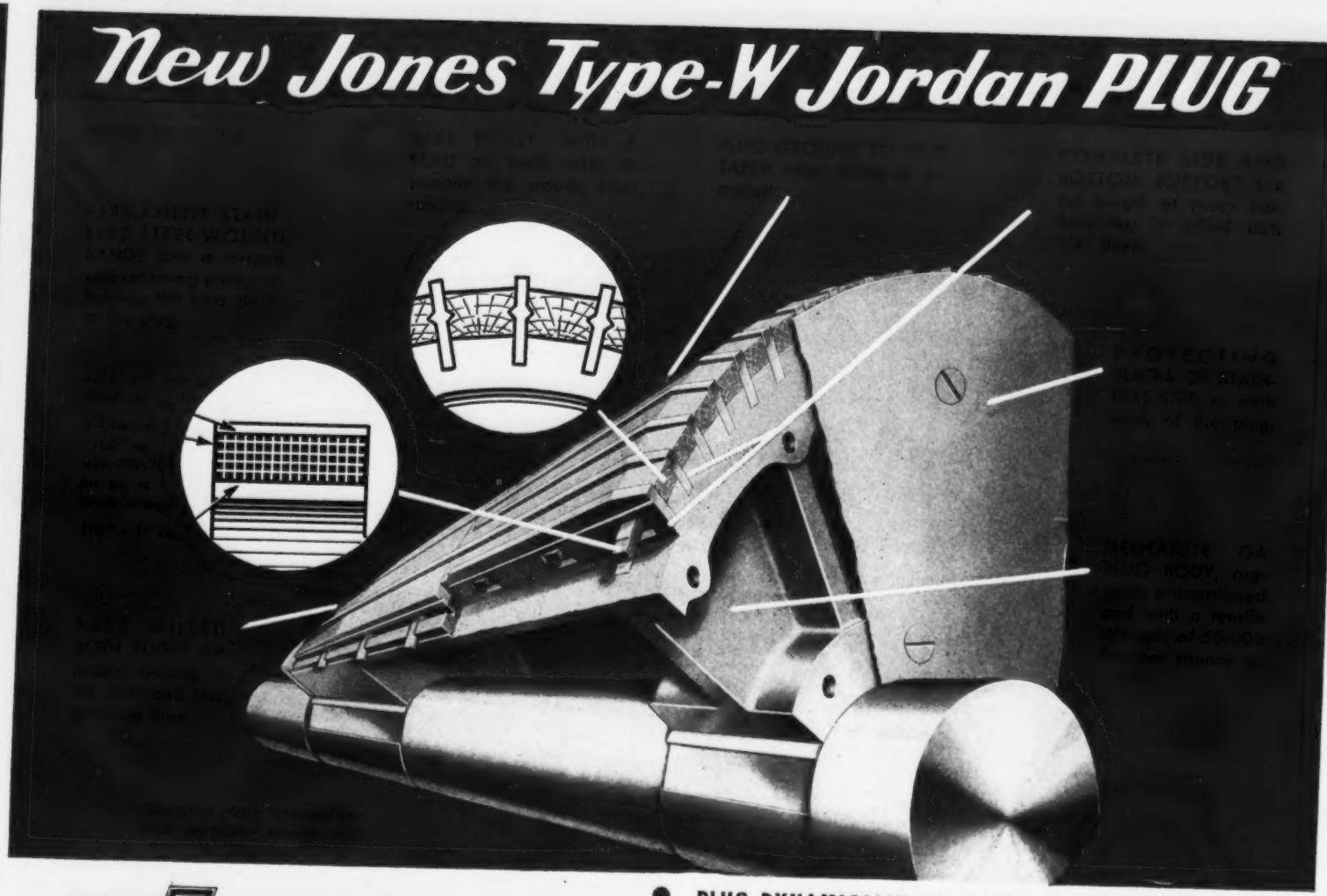
## Bagging

(F.O.B. Eastern Shipping Point)

| | |
|---|---|
| Gunny No. 1— | |
| Foreign | nominal |
| Domestic | 4.75 to 5.25 |
| No. 1 Clean Bright— | |
| Sisal Strings | .04½ " .05 |
| No. 2 Clean Bright— | |
| Sisal Strings | .03½ " .04 |
| Sisal Jute | .02¾ " .03 |
| Scrap— | |
| No. 1 | 5.00 " 5.50 |
| No. 2 | 2.50 " 3.00 |

E. D. JONES & SONS COMPANY, Pittsfield, Maine
Builders of Quality Machinery for Paper Mills
MANUFACTURERS AND DISTRIBUTORS IN CANADA: WATEROUS LTD., BRANTFORD, ONT.
Can be made in sizes to fit any mill. Jordan.

# New Jones Type-W Jordan PLUG



**Jones**

E. D. JONES & SONS COMPANY-PITTSFIELD, MASS.
Builders of Quality Machinery for Paper Mills

MANUFACTURERS AND DISTRIBUTORS IN CANADA: WATEROUS LTD., BRANTFORD, ONT.

- **PLUG DYNAMICALLY BALANCED AT OPERATING RPM.**
- **Ease of refilling. No bands to shrink on.**
- **Bands wound permanently in place under initial tension of 50,000 lbs. per sq. inch.**
- **Can be made in sizes to fit any make or size of Jordan.**

| | | | |
|---|---|---|---|
| Wool Tares, heavy | 4.75 | " | 5.00 |
| New Burlap Cuttings | 6.00 | " | 6.50 |

### Old Papers

(F. o. b. Phila.)

Mill Prices, Baled

| | | | |
|---|---|---|---|
| No. 1 Hard White Envelope Cuts, one cut | $100.00 | to | $115.00 |
| No. 1 Hard White Shavings, unruled | 100.00 | " | — |
| Soft White Shavings, one cut | 90.00 | " | 95.00 |
| White Blank News | 70.00 | " | 75.00 |
| Soft White Shavings | 80.00 | " | — |
| No. 1 White Ledger | 85.00 | " | 90.00 |
| Ledger, Colored | 70.00 | " | 72.00 |
| No. 1 Heavy Books & Magazines | 24.00 | " | 26.00 |
| Overissue Magazines | nominal | | |
| New Manila Envelope Cuttings | 80.00 | " | — |
| No. 1 Assorted Old Kraft | 60.00 | " | 65.00 |
| No. 1 Mixed Paper | 11.00 | " | 12.00 |
| Box Board Cuttings | 10.00 | " | 11.00 |
| Kraft Corrugated Cuttings | 90.00 | " | 100.00 |
| Old Corrugated | 24.00 | " | 26.00 |
| Overissue News | 20.00 | " | 22.00 |
| No. 1 News | 13.00 | " | 15.00 |

## BOSTON

### Old Papers

(F.o.b. Boston)

Mill Prices, Baled

| | | | |
|---|---|---|---|
| No. 1 Hard White Shavings, unruled | 6.25 | to | 6.75 |
| No. 1 Hard White Shavings, ruled | 6.00 | " | 6.50 |
| Soft White Shavings, Misc. | 5.25 | " | 5.50 |
| No. 1 Fly Leaf Shavings | 1.75 | " | 1.85 |
| No. 2 Fly Leaf Shavings | 1.65 | " | 1.75 |
| No. 1 Groundwood Fly Leaf Shavings | 1.75 | " | 2.00 |
| No. 2 Groundwood Fly Leaf Shavings | 1.50 | " | 1.75 |
| Mixed Colored Shavings | 2.00 | " | 2.25 |
| New Manila Envelope Cuts, one cut | 4.50 | " | 4.75 |
| Hard White Envelope Cuts, one cut | 6.00 | " | 6.50 |
| Triple Sorted No. 1 Brown Soft Kraft | 3.75 | " | 4.00 |
| Mixed Kraft Env. & Bag Cuttings | 4.00 | " | 4.25 |
| Kraft Envelope Cuttings | 3.75 | " | 4.00 |
| No. 1 Heavy Books & Magazines | 1.25 | " | 1.75 |
| New Manila Envelope Cuttings, one cut | — | " | — |
| New Manila Envelope Cuttings | 4.00 | " | 4.25 |
| White and Colored Tabulating Cards | 4.00 | " | 4.50 |
| Groundwood Tabulating Cards | 1.50 | " | 1.75 |
| White Blank News | 2.25 | " | 2.50 |
| No. 1 Assorted Old Kraft | 3.50 | " | — |
| No. 1 Mixed Paper | .65 | " | .75 |
| Overissue News | 1.00 | " | 1.25 |
| Box Board Cuttings | .60 | " | .70 |
| New Corrugated Cuttings, Kraft | 2.75 | " | 3.00 |
| Old Kraft Corrugated Containers | 1.75 | " | — |
| Old Corrugated Containers | 1.25 | " | 1.30 |
| Jute Corrugated Cuttings | 1.07½ | " | — |
| Paper Strings | 2.00 | " | 2.25 |

### Bagging

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| Gunny Bagging— | | | |
| Foreign | — | to | 4.75 |
| Domestic | — | " | 4.75 |
| Sisal Rope No. 1 | 6.00 | " | — |
| Sisal Rope No. 2 | 5.50 | " | — |
| Mixed Rope | 5.25 | " | — |
| Mixed Strings | 2.00 | " | 2.50 |
| Transmission Rope— | | | |
| Foreign | (nominal) | | |
| Domestic | 3.00 | " | 3.50 |
| Manila Rope— | | | |
| Foreign | (nominal) | | |
| Domestic | 6.25 | " | — |
| Soft Jute Rope | 5.00 | " | 5.25 |
| Jute Carpet Threads | 6.00 | " | — |
| Bleachery Burlap | 8.50 | " | 9.00 |
| Scrap Burlap— | | | |
| Foreign | — | " | 4.75 |
| Domestic | — | " | 4.87½ |
| South America | 5.25 | " | — |
| Wool Tares— | | | |
| Foreign | 4.75 | " | — |
| Domestic | 4.75 | " | — |
| Aust. Wool Pouches | 5.00 | " | 5.25 |
| New Zealand Wool Pouches | 5.25 | " | 5.50 |
| New Burlap Cuttings | 6.00 | " | 6.50 |
| Heavy Baling Bagging | 5.25 | " | 5.75 |
| Paper Mill Bagging | 3.50 | " | 3.75 |
| No. 1 Roofing Bagging | 1.75 | " | — |

### Domestic Rags (New)

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| Shirt Cuttings— | | | |
| New Light Prints | .08 | to | — |
| Fancy Percales | .07½ | " | .08 |
| New White No. 1 | .11 | " | .11½ |
| New Light Flannelettes | .08 | " | .08½ |
| Canton Flannels, Bleached | .10 | " | .11 |
| Underwear Cutters, Bleached | .10 | " | .11 |
| Underwear Cutters, Unbleached | .11 | " | .12 |
| Silesias No. 1 | .08 | " | .08½ |
| New Black Silesias | .05 | " | — |
| Red Cotton Cuttings | .05 | " | — |
| Blue Overalls | .08½ | " | .09 |
| Soft Unbleached | .11 | " | .12 |
| Blue Cheviots | .08½ | " | .09 |
| Fancy | .06 | " | — |
| Washable | .06 | " | — |
| Khaki Cuttings | .06½ | " | .07½ |
| Corduroy | .83½ | " | — |
| Khaki Canvas | .06½ | " | .06½ |
| B. V. D. Cuttings | .10½ | " | .11 |

### Domestic Rags (Old)

(F. o. b. Boston)

| | | | |
|---|---|---|---|
| White No. 1— | | | |
| Repacked | 3.80 | to | — |
| Miscellaneous | 3.20 | " | — |
| White No. 2— | | | |
| Miscellaneous | 2.65 | " | — |
| Twos and Blues, Repacked | 2.20 | " | — |
| Old Blue Overalls | 2.25 | " | 2.30 |
| Thirds and Blues, Repacked | 2.20 | " | — |
| Miscellaneous | 1.88 | " | — |
| Black Stockings | 3.50 | " | 4.00 |
| Roofing Stock— | | | |
| No. 1 | 2.00 | " | — |
| No. 2 | 1.75 | " | 2.00 |
| No. 3 | 1.35 | " | — |
| No. 4 | 1.35 | " | — |
| No. 5, Quality A | 1.35 | " | — |
| Quality B | 1.20 | " | — |
| Quality C | .95 | " | — |
| Old Manila Rope | 6.00 | " | |

### Foreign Rags

(F. o. b. Boston)

| | |
|---|---|
| Canvas | (nominal) |
| Dark Cottons | (nominal) |
| Dutch Blues | (nominal) |
| New Checks and Blues | (nominal) |
| Old Fustians | (nominal) |
| Old Linsey Garments | (nominal) |
| New Silesias | (nominal) |

## CHICAGO

### Waste Paper

(F. o. b. Chicago)

Mill Prices, Baled

| | | | |
|---|---|---|---|
| Shavings— | | | |
| No. 1 Hard White Envelope Cuts, one cut | $140.00 | to | $150.00 |
| No. 1 Hard White Shavings, unruled | 110.00 | " | 120.00 |
| No. 1 Soft White Shavings | 90.00 | " | 100.00 |
| No. 1 White Ledger | 85.00 | to | 90.00 |
| No. 1 Heavy Books & Magazines | 30.00 | " | 35.00 |
| White Blank News | 65.00 | " | 70.00 |
| Mixed Kraft Env. & Bag Cuttings | 80.00 | " | 90.00 |
| No. 1 Assorted Old Kraft | 35.00 | " | 40.00 |
| Overissue News | 23.00 | " | — |
| No. 1 News | 18.00 | " | 19.00 |
| No. 1 Mixed Paper | 13.00 | " | 14.00 |
| Old Corrugated | 20.00 | " | — |
| Mill Wrappers | 15.00 | " | — |

# MARKETS

BLANC FIXE — No change in market. Demand continues strong. Pulp is currently quoted at $85 in bags, car lots at works, 6 cents per lb., l.c.l., deld.; by-product $72.50 per ton, car lots at works, 6 cents per lb., l.c.l., deld.

BLEACHING POWDER — Supply improves. Market near a balance. Prices range from $3.75 to $4 per 100 pound drums, l.c.l., works.

CASEIN — Market approximately unchanged. Slight softening on imported product. Buying weak. Domestic production unsettled. Stocks inadequate. Current prices on processed acid precipitated casein at 33 to 35 cents per pound for domestic grades and 29 to 30 cents for imported grades, f.o.b. shipping point.

CAUSTIC SODA—Supply extremely short and unimproved. Export demand strong. Liquid form in better delivery than dry. Solid caustic is reported at $2.85 per cwt.; flaked and ground is quoted at $3.25 per cwt. in 400 pound drums, $3.75 per cwt. in 100 pound drums — car lots at works; liquid 50% in tank cars at $2.25 per cwt.; liquid 73% in tank cars at $2.35 per cwt. at works.

CHINA CLAY — Domestic grades in good supply; no change in market. Filled is $10 to $13 per ton, car lots; coating clay is $15 to $30. Imported clay demand good. Supply improved. Quoted $16 to $35 short ton, export warehouse.

CHLORINE—Supply condition unimproved with easing seen as temporary slackening of demand. Prices unchanged. Currently quoted at $2.25 per cwt. in single unit tank cars, and at $2.55 to $3.75 per cwt. in multi-unit tank cars, f.o.b. works.

ROSIN—Trading light. Prices firm. Gum rosin in drums per 100 pounds net in yard. New York car lots B, D, $9.25; E, F, $10; G, H, I, K, M, N, $10.25; WG, $10.60; WW, $10.70. Wood rosin, per 100 pounds, net, f.o.b., l.c.l., N. Y., B, $6.45; FF, $7.95; G, H, I, $10.37; K, $10.41; M, $10.47; N, $10.64; WG, $10.95; WW, $11.08.

SALT CAKE—Demand continues ahead of supply with slight improvement in shipments. Prices unchanged. Domestic salt cake is quoted at $20 to $26.

SODA ASH—Market tight. Demand strong. Seasonal relaxation produced temporary easing. Shipments only against contracts. Current prices, car lots, per 100 pounds, are as follows: in bulk, $1.10; in paper bags, $1.30; and in barrels, $1.70.

SODIUM BICARBONATE — Supply approximately abreast the demand. Shortage of box cars delays shipment. Reported as $1.85 per cwt. paper bags, carload lots.

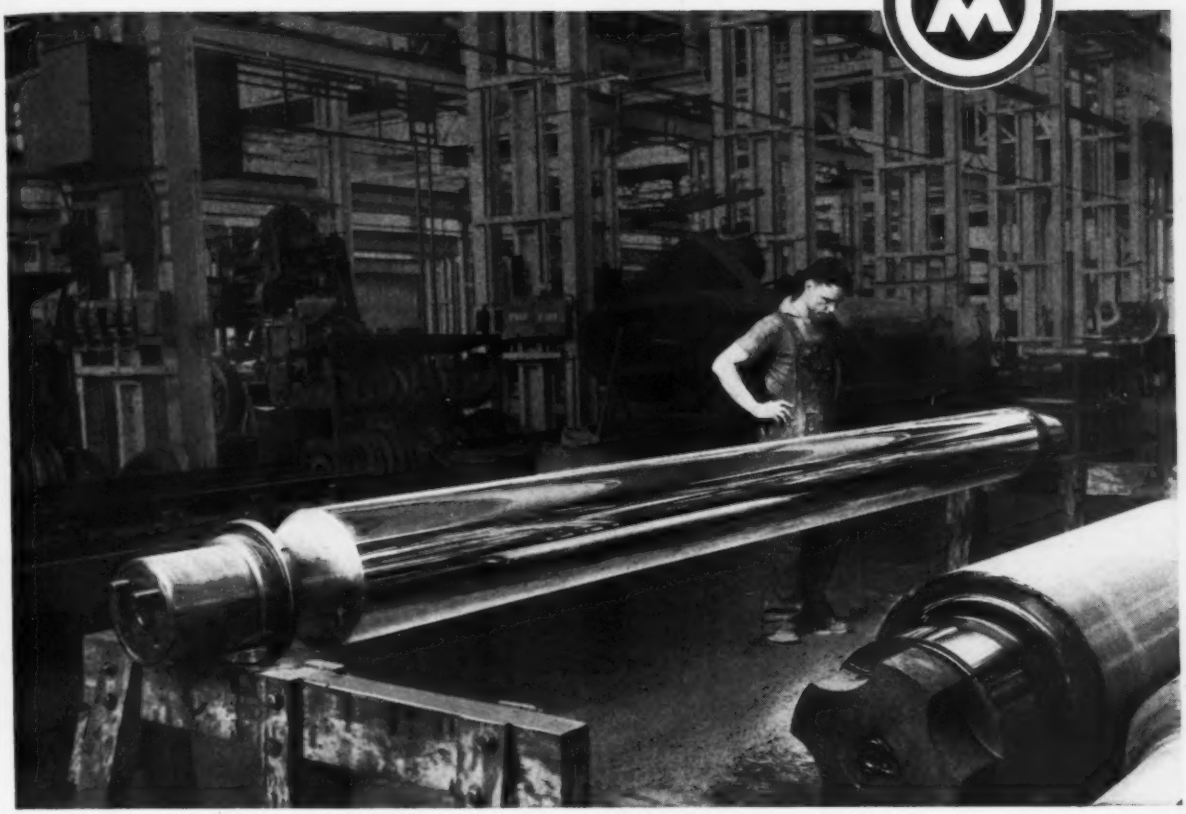
STARCH—Production improved considerably. Export good. Price rise withdrawn. Market easier. Pearl grade quoted at $7.06 per 100 pounds; powdered starch at $7.27 per 100 pounds; car lots, New York.

SULPHATE OF ALUMINA — Supply steady. Prices unchanged. The commercial grades are quoted at from $1.15 to $1.30 per 100 pounds, in bags, car lots, f.o.b. works. Iron free is quoted at $2 per 100 pounds in bags, car lots, at works.

SULPHUR—Prices unchanged. Supplies ample. Annual contracts are quoted at $16 to $18 per long ton, f.o.b. mines; the price f.o.b. at Gulf ports is $17.50 to $19.50 per long ton.

TALC—No change in domestic market. Demand far in excess of supply. Domestic grades are currently quoted at $21 per ton in mines; Canadian at $35 and up per ton. All prices in car lots.

TITANIUM DIOXIDE — Demand strong. Extremely tight supply with no early easing seen. Anastase 17½c lb. carload lots, 18-18½c l.c.l.; rutile 19½c lb. carload lots, 20-20½c l.c.l.; 50-lb. bags, f.o.b. plant, minimum freight allowance.



# SUPER SMOOTH OPERATOR

**Midvale Forged Steel Hardened and Ground Calender Rolls for paper mills are *extra strong* . . . tensile strength, 100,000 pounds per square inch . . . true elastic limit, 70,000 pounds per square inch . . . elongation, 20% in 2 inches . . . reduction of area, 45%. They are *extra stiff* . . . less wear, no washboarding, reduced or eliminated bearing trouble, less side thrust and stack-climbing. They are *harder* . . . need less grinding. And they have a *very high finish* . . . closer grained, more uniform, free from pin-holes, sand-holes, soft spots and crystalline pattern.**

**Any size can be supplied. Your inquiry is invited.**

***THE MIDVALE COMPANY • NICETOWN • PHILADELPHIA***

**OFFICES: NEW YORK • CHICAGO • PITTSBURGH**
**WASHINGTON • CLEVELAND • SAN FRANCISCO**

**MIDVALE**
*Custom Steel Makers to Industry*

STAINLESS AND TOOL STEEL BARS
•
CORROSION AND HEAT RESISTING CASTINGS
•
FORGINGS AND RINGS

# EQUIPMENT AND SUPPLY NEWS

## Westinghouse Offers High Intensity Light

PITTSBURGH—An industrial spotlight powerful enough to illuminate clearly welding, cutting, or brazing work when viewed through a No. 10 welder's glass before striking the arc is marketed by Westinghouse Electric Corporation. Particularly applicable for repetitive work, one of these spotlights casts a small-diameter circle of light of from 2500-footcandle brilliance when placed three feet from the work to 1000 footcandles when located six feet away. Two or more lights can be used if desired for any application requiring a small area of very high illumination.

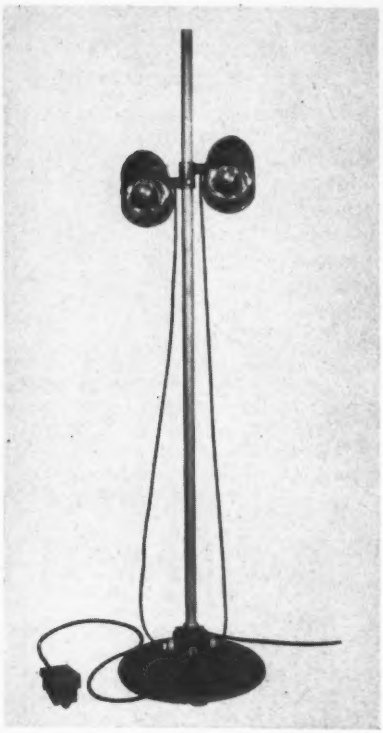
The spotlight uses a six-volt, sealed-beam type of lamp operated from a transformer built into the light housing, the complete assembly weighing approximately five pounds. It can be mounted at any angle on some convenient one-inch pipe or on its own stand by means of a clamp and positive-action spring-loaded swivel joint.

Since power requirement for the lamp and accessories is only 30 watts at 115 volts, 60 cycles, the spotlights can be plugged into any service outlet.

Practically no heat is generated by the spotlight because of this extremely low power consumption, and work is made cooler and more comfortable. Previous lights for this purpose operated at upwards of 300 to 450 watts.

The high-intensity industrial spotlights are available as single units complete with built-in transformer and clamp, or in a combination of two spotlights and a six-foot pipe stand with built-in receptacles, a foot-operated switch, and power cord.

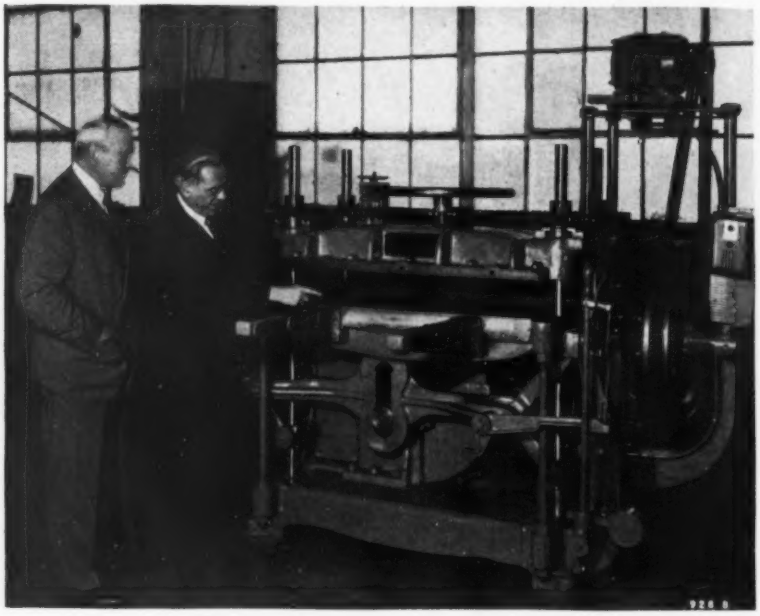
Further information obtainable from the Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pa.



Two Westinghouse high-intensity industrial spotlights mounted on stand.

## Lake Erie Gets Harris-Seybold Rights

CLEVELAND—New models of Seybold Die Presses incorporating many design improvements are now in full production at Lake Erie Engineering Corp., Buffalo, according to a statement issued jointly by H. A. Porter, vice-president in charge of sales for Harris-Seybold Company, and R. E. Dillon, president of the Buffalo firm.



ROBERT E. DILLON

president of the Lake Erie Engineering Corporation, looks on as Harry Porter, vice president in charge of sales of the Harris-Seybold Company, points out features of the first Seybold Die Press manufactured in the Lake Erie plant in Buffalo, New York. This press has a bed measuring 44" x 30".

Lake Erie Engineering, well known throughout the graphic arts industry as manufacturers of Directomat Molding Presses and Acraplate Presses, has been given exclusive manufacturing rights to the complete line of Seybold Die Presses on a long term basis. Harris-Seybold will continue to handle sales and distribution of Seybold Die Presses.

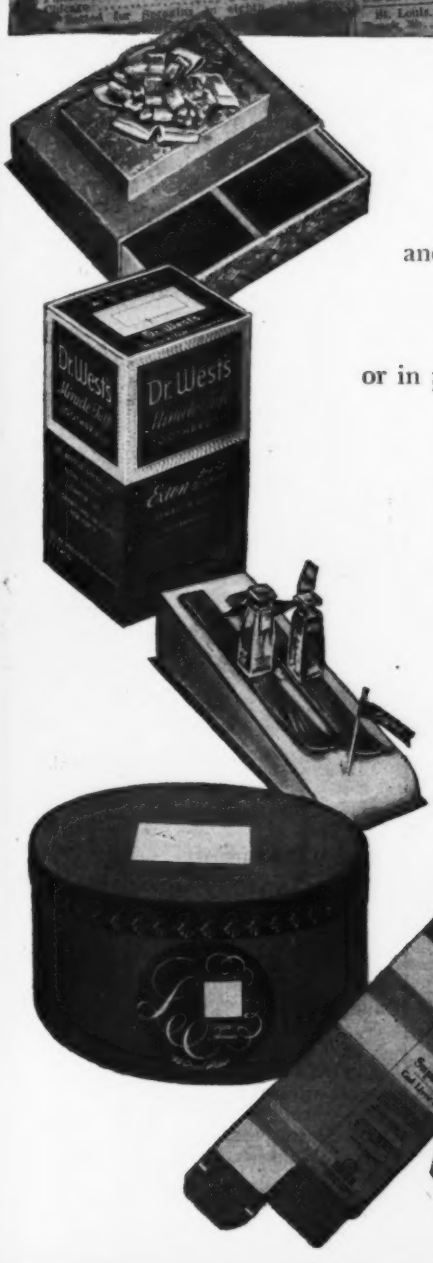
These heavy-duty four rod die presses, retaining all features that made earlier models leaders in the graphic arts and allied industries, have been redesigned for greater production, longer life, and reduced maintenance cost. The base, head, table, and crank brackets of the machine have been reinforced and a heavier flywheel and an improved lubrication system, coupled with a fully enclosed worm and wheel assembly, have been installed for high-speed economic operation.

Seybold die presses are used extensively for die cutting of paper, paper board, rubber, cloth, leather, and composition materials.

## Metco Sprabond Reduces Preparatory Steps

LONG ISLAND CITY, N. Y. — Metallizing without preparation is made possible by Metco Sprabond, a metal which may be sprayed directly on smooth, even highly polished steel, and other materials. It has been developed by the Metallizing Engineering Company, Inc.

A bulletin has been prepared explaining in detail the time and money saving features of Metco Sprabond. Copies are available upon request to the Metallizing Engineering Company, Inc., 38-14 30th Street, Long Island City 1.




*Makers of fine paper boxes have made many hits and no errors with Arabol Adhesives.*

Whether you're interested in set-up or folding boxes or in paper converting in any form, see your Arabol representative when he calls. He knows adhesives and can help you find the types that serve best in your individual case. Arabol has been a pioneer for more than 60 years.

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ADHESIVES THAT WORK

*Adhesives?...* **ARABOL!**

Producers of

SULPHUR

Large stocks at our mines make possible prompt shipments

Uniformly high purity of 99½% or better

Free of arsenic, selenium and tellurium

TEXAS GULF SULPHUR CO. INC.

75 East 45th St. New York 17, N. Y.

Mines: Newgulf and Moss Bluff, Texas

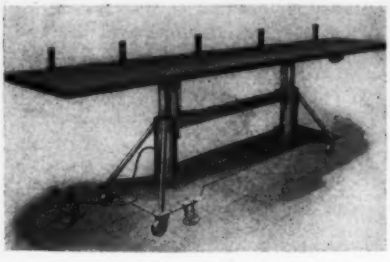
## Lyon-Raymond Double Pedestal Hydraulic Sheet Feeding Tables

GREENE, N. Y.—Two new models in the Lyon-Raymond Corp.'s line of hydraulic sheet feeding tables, seen for the first time at the recent National Materials Handling Exposition, are 4000 and 6000 lb. capacity units, now available in a synchronized dual pedestal design.

Standard base sizes are offered to which may be fastened tops of various widths to accommodate the desired sizes of sheets or strips, also 30° tilt top is offered as an optional extra.

The tables are fitted with two heavy-duty swivel casters and two heavy-duty rigid casters, and floor lock secures the table in feeding position as required. The single speed hydraulic foot pump with five feet of flexible hose enables an operator to increase the elevation from 24 inches to 36 inches without moving from his normal press feeding position.

Full information regarding these new tables will be furnished upon request by the manufacturer, Lyon-Raymond Corp., 4653 Madison Street, Greene, N. Y.



Lyon-Raymond Dual Pedestal Feeding Table

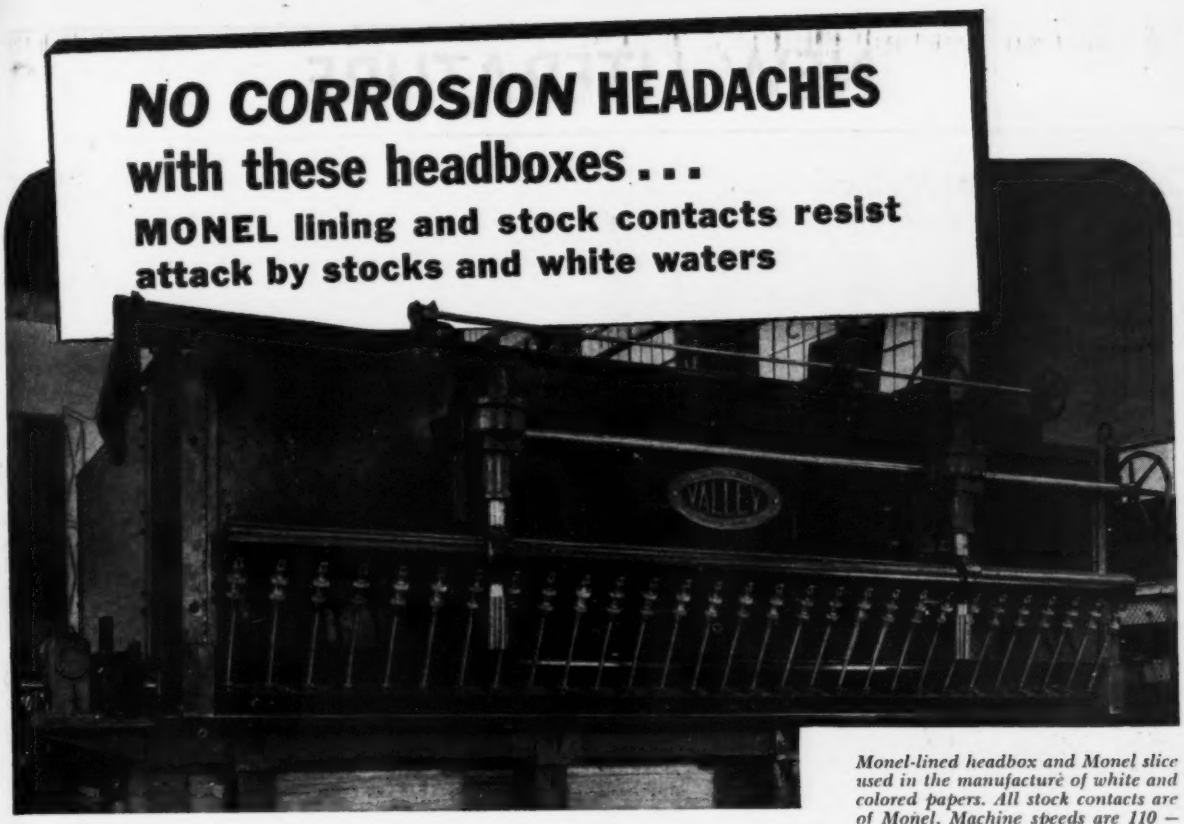
## Kieley & Mueller Valve Capacity Calculator

NORTH BERGEN, N. J.—A valve capacity calculator, offered without charge and applicable to the new K&M line of Kontrol-Motor diaphragm valves and pressure regulators, is available from Kieley and Mueller, Inc. The calculator was developed from the results of extensive laboratory tests and is based on three factors: (a) Rate of flow through the valve, or capacity; (b) Static pressure and pressure drop through the valve, or resistance; (c) Valve size.

Correction scales for steam quality and liquid and gas specific gravity are included as well as a flowing temperature scale for gases.

Of circular slide-rule type, the calculator is eight inches in diameter, has long, open scales that are easily read. It will be sent, with detailed instruction sheet, to design, construction, and process engineers and control valve users requesting it on their company letterheads.

# NO CORROSION HEADACHES
## with these headboxes . . .
### MONEL lining and stock contacts resist attack by stocks and white waters




*Monel-lined headbox and Monel slice used in the manufacture of white and colored papers. All stock contacts are of Monel. Machine speeds are 110 — 1200 ft. per minute. Made by the Valley Iron Works, Appleton, Wisconsin.*

With Monel* guarding against corrosion, headboxes and slices made by the Valley Iron Works will require only a minimum of maintenance service.

For Monel resists the corrosive action of acid and alkaline stocks, and machine white waters. Merely rinsing with fresh water keeps Monel surfaces bright and prevents the accumulation of slime and fibre.

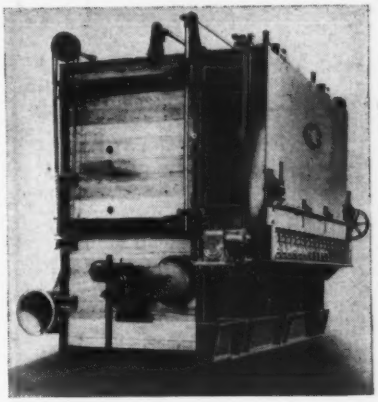
Monel is rustproof, tough, and stronger than structural steel. Yet it is easily fabricated. It can be cut, bent, and welded by ordinary shop methods. Important too, Monel does not react galvanically with copper, brass and bronze.

Leading paper manufacturers report substantial savings through using Monel in wet-end applications such as save-all pans and trays, suction boxes, rolls, rail covers, fastenings, doctors and slices, as well as for headboxes and linings.

Just as Monel helps make Valley Iron Works' slices and headboxes longer-lasting and trouble-free in operation, it can cut corrosion losses in your own plant. *Replace with Monel, and watch maintenance costs go down.*

To learn more about how INCO Nickel Alloys can help you solve production problems, write for: "Monel, Nickel, and Inconel in Pulp and Paper Mills."

*Reg. U. S. Pat. Off.



*Monel-lined headbox and Monel slice for use on paper machine making kraft paper for bags and wrappings (30# to 121# weight). Operating speeds are 300 — 1000 ft. per minute. All stock contacts are of Monel. Made by the Valley Iron Works, Appleton, Wisconsin.*

EMBLEM OF SERVICE INCO TRADE MARK

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*67 Wall Street, New York 5, N. Y.*

**MONEL . . .**
**for lower maintenance**

# NEW LITERATURE

## Calco Describes Method To Determine Solubility

NEW YORK—The greater use of continuous dyeing methods and changes in the design of dyeing machinery have increased the need for reliable data on the solubility of dyes, according to findings of the American Cyanamid Company. The rate of solution, the solubility and methods of increasing the solubility of dyes are of interest in most fields of dye application. Since the conditions of application in these fields are so varied, there is neither a single method of solubility determination nor a single set of solubility data which can be applied in all cases.

The new Calco Technical Bulletin Number 801, "Determination of the Solubility of Dyes," describes a method which can be used to obtain the solubility of commercial dyes. The solubility of a large number of Calco's acid and direct dyes at 60°C. is listed.

## Booklet Outlines Program For Plant Fire-Safety

BOSTON — The essential points for management to have in mind in planning or supervising plant fire-safety are outlined in a 16-page illustrated booklet recently published by the Associated Factory Mutual Fire Insurance Companies. The information originally appeared as a series of twelve articles during 1947 under the title "What Makes a Plant Fire-Safe?"

Each page deals with a separate feature of the overall problem. The broad principles governing construction standards, automatic sprinklers, water supplies, and extinguishers are covered, as well as the essential requirements of a good watch service and fire-fighting organization. Included is a breakdown of industrial fire causes and suggestions for their elimination. Good housekeeping, maintenance of fire equipment and electrical apparatus, and safeguards for special hazards are also covered.

A copy of the booklet may be obtained by writing the Inspection Department, 184 High Street, Boston 10, Mass.


**NEW**

**—SAP BROWN—ALP—**

**Paper Color for that low cost brown paper either with or without toning colors**

**NOW**

A reliable supply from
American Lignite
available in
Unlimited Quantities
and
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**Fast deliveries from Eastern Warehouses**

**AMERICAN LIGNITE PRODUCTS CO.**
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***Eastern agent—B.M. Snyder III***
**621 Cherry Street**
**Phila. 6, Pa.**


## Power Belt Conveyor Bulletins Ready

GRAND RAPIDS, Mich.—Literature on the newly announced Floor-Veyor, Jr. and Stevedore, Jr. power belt conveyors is now available from The Rapids-Standard Company, Inc., material handling equipment manufacturers of Grand Rapids, Michigan.

The single page, two-side information bulletin showing illustrations and specifications of both conveyors, carries descriptive copy to help prospective purchasers decide on the feasibility of applying either conveyor to increase material handling efficiency in their respective firms. Line drawings show how the conveyors are used in actual installations. Features such as convertibility to new lengths, one-piece box channel construction, and others are listed.

Each bulletin is stamped with the name and address of the Rapids-Standard representative nearest the inquirer.

Copies of the new bulletin, Form SF-148, may be had by writing to The Rapids-Standard Co., Inc., Dept. SF-217, 342 Rapistan Building, Grand Rapids 2, Michigan.

## New Catalog on Mechanical Fuel Oil Burning Systems

PHILADELPHIA—Schutte and Koerting Company have published a new three color 8-page bulletin on mechanical fuel oil burners used for operating steam boilers in industrial and power plants. Photographs, text and drawings describe the burners, and general information is supplied on their construction and operation.

Tables, drawings and charts give comprehensive data on dimensions, pressure capacities and weights of the various burners, forced and natural draft air control registers. Pumping systems for fuel oil burners are also described. Photographs show typical applications of the burners in industrial plants and a large utility.

Write for Bulletin 16A to Schutte and Koerting Company, 12th and Thompson Streets, Philadelphia 22, Pa.

## Acipco Revises Its Catalog

BIRMINGHAM, Ala.—American Cast Iron Pipe Company catalog entitled "Acipco Steel — Centrifugally Cast" has been revised and is now ready for distribution. The catalog consists of 58 pages and is profusely illustrated. It gives useful data pertaining to the facilities for the production of cast steel parts and tubes as well as industrial alloy iron castings.

## Moisture Measuring Equipment Described By Aminsco

SILVER SPRING, Md.—A new 28-page bulletin just published by the American Instrument Co., Inc., gives a comprehensive description of a complete line of electric hygrometer equipment suitable for the more exacting industrial and laboratory applications.

Generously illustrated, the booklet lists among other devices a tiny sensing element that responds within a fraction of a second to increases or decreases of relative humidity as small as 0.1 percent, and explains how this remarkable element measures with an accuracy of within plus-minus 1½ percent relative humidity when used with suitable equipment.

The user of this electric hygrometer system, the bulletin explains, no longer needs to be concerned with such limiting factors as restricted circulation of atmosphere around the sensing element, extremely small mounting spaces for sensing elements, remote installation of indicating or other equipment, and subjection of the sensing element to vacuum or pressure.

Former bulletin No. 2140 is superseded by this new bulletin (2164-162) which lists many new easier-to-use instruments and in addition gives data on various industrial and laboratory applications with helpful selection charts, diagrams, and calibration curves.

## Sodium Phospho Aluminate Bulletined

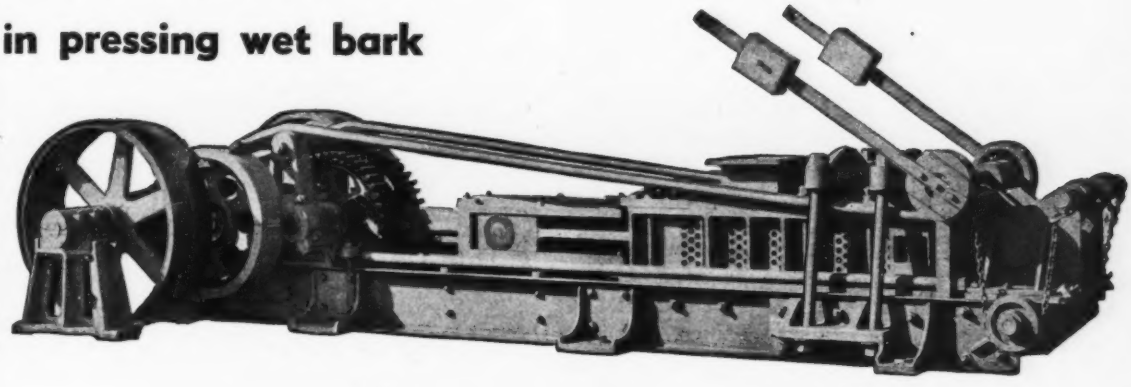
NEW YORK — American Cyanamid's new product Sodium Phospho Aluminate, its development as an improvement over paper-makers grade Sodium Aluminate, its chemical analysis and properties, also its applications in the paper industry are described in a new bulletin available from their Synthetic Organic Chemicals Dept., 30 Rockefeller Plaza, New York 20.

# the Improved

# Giant Nekoosa Bark Press

**Universally used**

**in pressing wet bark**



## Make Waste Bark Pay You a Profit

**The Giant Nekoosa Bark Press will press all bark, with the exception of green balsam, 50% dry. In an average mill, steam produced from this pressed bark will pay for the equipment installation in less than a year. What could be a better investment?**

**The above statement has been proved many times in mills where they are in use. These machines truly turn waste bark into profits.**

**The Giant Nekoosa Bark Press has been standard equipment in many mills in the U. S. & Canada for twenty-five years.**

**Mfg. and sold in Canada by**

**Hydraulic Machinery Co. Ltd.**

**1972 Tansley St.** **Montreal**

# Nekoosa Foundry & Machine Works Inc.

**Nekoosa, Wis.**

**Other Products**

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| **Wood Peelers** | **Chip Cutter** | **Washers** |
| **Flat Screens** | **Agitators** | **Digester Fittings** |
| **Ball Valves** | **Deckers** | **Press Marking Equipment** |

# DIGESTED

I would like to say a word about this surplus account, as there is probably no part of corporate accounting more likely to be misunderstood. It is often regarded as the property of the shareholders, but except in the event of a liquidation, it is no such thing. It is money that is voluntarily left in the business by the shareholders to keep it running and financially sound. It helps to provide the working capital from which wages are paid and materials are purchased before payment is received from customers for goods that have been manufactured and sold. Today when payrolls and the costs of everything the companies must buy are soaring, there is need of much more working capital than formerly and it would be a foolish management that did not provide during a period of maximum production and high demand such an insurance fund against possible business recessions. The so-called "surplus" fund is for the protection of all the partners in the business—shareholders, employes and, incidentally, customers and suppliers. For the shareholder it may prevent a cut in the dividend rate when the business weather becomes less favorable; for the worker, it is available to minimize wage cuts and to avoid the shipwreck of his job. —R. M. Fowler, from annual report to the Canadian Pulp and Paper Association.

## Production Ratio Report*

(Production as per cent of six-day capacity)

COMPARATIVE WEEKLY SUMMARIES

| Current Weeks—1948 | | Corresponding Weeks—1947 | |
|---|---|---|---|
| December 20, '47 | 110.6 | December 21, '46 | 101.8 |
| December 27, '47 | 74.9 | December 28, '46 | 71.8 |
| January 3 | 100.3 | January 4 | 96.3 |
| January 10 | 99.4 | January 11 | 102.6 |
| January 17 (revised) | 99.9 | January 18 | 103.8 |
| January 24 | 101.7 | January 25 | 103.7 |

COMPARATIVE MONTHLY SUMMARIES

| 1946 | | | | 1947 | | | |
|---|---|---|---|---|---|---|---|
| Jan. | 94.7 | July | 94.0 | Jan. | 102.1 | July | 93.5 |
| Feb. | 98.4 | Aug. | 104.7 | Feb. | 105.9 | Aug. | 104.2 |
| Mar. | 104.4 | Sep. | 101.3 | Mar. | 106.1 | Sep. | 102.0 |
| Apr. | 102.7 | Oct. | 106.4 | Apr. | 105.1 | Oct. | 109.5 |
| May | 100.7 | Nov. | 105.5 | May | 106.2 | Nov. | 109.3 |
| June | 104.6 | Dec. | 97.0 | June | 106.0 | Dec. | 101.5 |
| | | Year Avg. | 101.1 | | | Year Avg. | *104.3* |

COMPARATIVE YEARLY SUMMARIES

| | 1941 | 1942 | 1943 | 1944 | 1945 | 1946 | 1947 |
|---|---|---|---|---|---|---|---|
| Year Average | 97.4 | 90.4 | 87.8 | 88.1 | 89.4 | 101.1 | 104.3 |

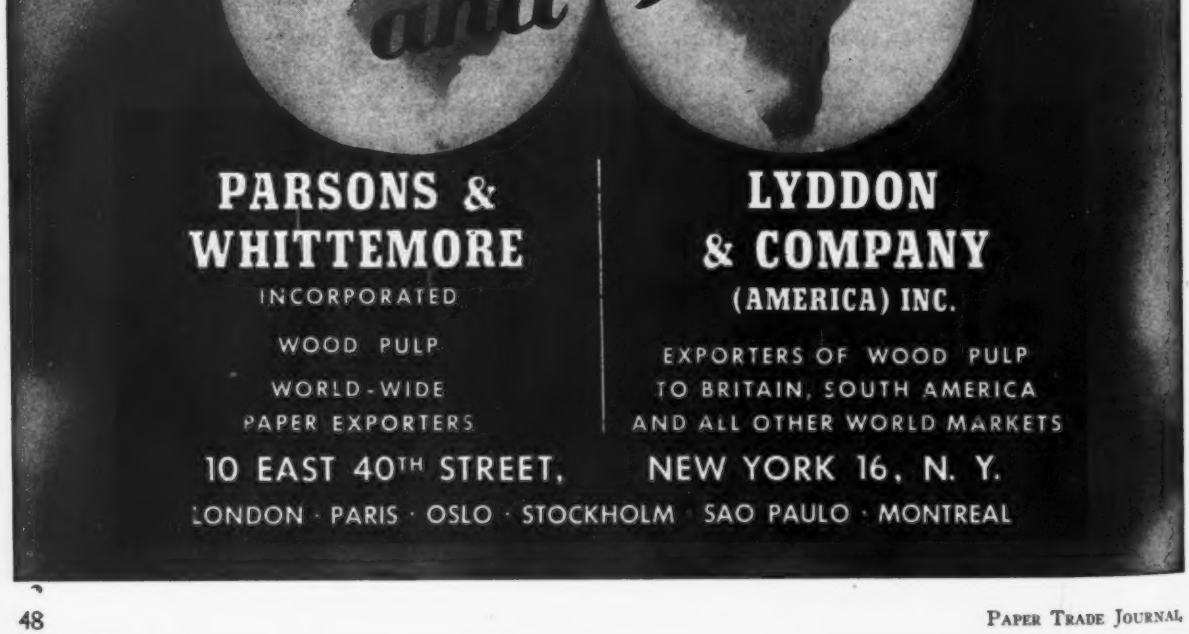
PAPERBOARD OPERATING RATIOS†

| Current Weeks—1948 | | Corresponding Weeks—1947 | |
|---|---|---|---|
| December 20, '47 | 100 | December 21, '46 | 102 |
| December 27, '47 | 77 | December 28, '46 | 66 |
| January 3 | 78 | January 4 | 85 |
| January 10 | 99 | January 11 | 102 |
| January 17 | 104 | January 18 | 103 |
| January 24 | *104* | January 25 | 101 |

| Year | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | Year Avg. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1946 | 90 | 91 | 100 | 99 | 94 | 97 | 89 | 99 | 96 | 100 | 99 | 92 | 96 |
| 1947 | 99 | 103 | 101 | 100 | 101 | 101 | 90 | 99 | 96 | 101 | 99 | 89 | *98* |

* Based on tonnage reported to American Paper and Pulp Association. Does not include mills reporting to National Paperboard Association, except in isolated cases where both paper and paperboard are produced and separate tonnage figures are not readily available. Does not include mills producing newsprint exclusively.

† Per cents of operation based on "Inch-Hours" reported to the National Paperboard Association.

# EDITORIAL

## Forward Looking

Though he spoke as one reporting on his stewardship for the past year, R. M. Fowler in his talk before the annual luncheon of the Canadian Pulp and Paper Association gave a dominant tone to the entire industry for which he is spokesman. He dismissed detail—that had been taken up in other meetings. He dwelt on the immediate past and the present only as it might have an influence on future industrial welfare. He found a complete agreement among all Canadian — however much they might differ in minor interpretations—on the broad aims of Canadian and industrial welfare. He turned, instead, to problems of the future, of production, of goods for the future, of research, and of public relations.

Community of thinking, he declared, is no better illustrated anywhere than in the realm of forest policy. The pulp and paper industry has declared its forest policy, a policy of operating forest holdings on a perpetual yield basis. Then he read two sentences from two recent statements: "The aim of our public policy is to maintain and improve forest resources for the advantage of the whole of the people and for an unlimited period of time." The second statement read: "We do not intend to permit, now or at any time in the future, an annual cut in excess of the actual growth which assures perpetuity of our forest stands." One statement was made recently by the Prime Minister of Quebec, the other by the Prime Minister of Ontario. "Either, or both," Mr. Fowler declared, "could have been made by a representative of the pulp and paper industry. There is no difference of opinion on the fundamentals of this great question and there is every reason to believe that governments and industry can co-operate to achieve their common objectives in forest policy. There is much to be done. This industry is working and will continue to work toward the goals of perpetual yield, sound forest management, greater protection against fire, insects and disease, more complete utilization of raw materials and the elimination of waste. It is not a policy that can be implemented once and for all and by some spectacular action. It must consist of a great number of different actions and must receive continuous attention from woods operators and government agencies alike."

Canada needs great quantities of American goods, he pointed out. "With the best will in the world, we have no real prospect of becoming economically self-sufficient and any possible reductions in our imports cannot begin to close the gap between imports from the United States and present exports to that country. Before the war our surplus of exports to other countries, particularly Great Britain, gave us payments that we could convert into American dollars to pay our debts in the United States. That convertibility is gone from international trade and there is little prospect that it can be even partially restored for several years. The only way we can square our accounts and buy from the United States our essential requirements is to expand our exports. It seems inconceivable that any major, progressive Canadian industry will fail to participate in that export expansion, particularly one dependent for its raw materials, as ours is, on Canada's natural resources. We can either move with the tide or seek to swim against it. But I believe exports must be expanded and this industry must take its part, not merely by increasing the volume of commodities that are now exported, but by moving into international trade in commodities that are now largely produced for the domestic market. This situation may create serious difficulties, but it presents a great challenge.

"One way to increase the value of our exports is to make better products which will justify a higher price, and to develop new products. I believe that, by any test, our present research activities are seriously inadequate —inadequate for an industry of this size and inadequate to meet the probable developments of the future. Much has been done in this industry in fundamental studies of physical and cellulose chemistry and in the speed of machines. But it may be worth pointing out that, despite a widespread North American opinion to the contrary, this continent has lagged behind Europe in producing basic new scientific discoveries. We have been uniquely skilful in applying the ideas of others to practical use, but we have been relatively deficient in originating fundamental developments through abstract research and experiment."

## New Old Timer

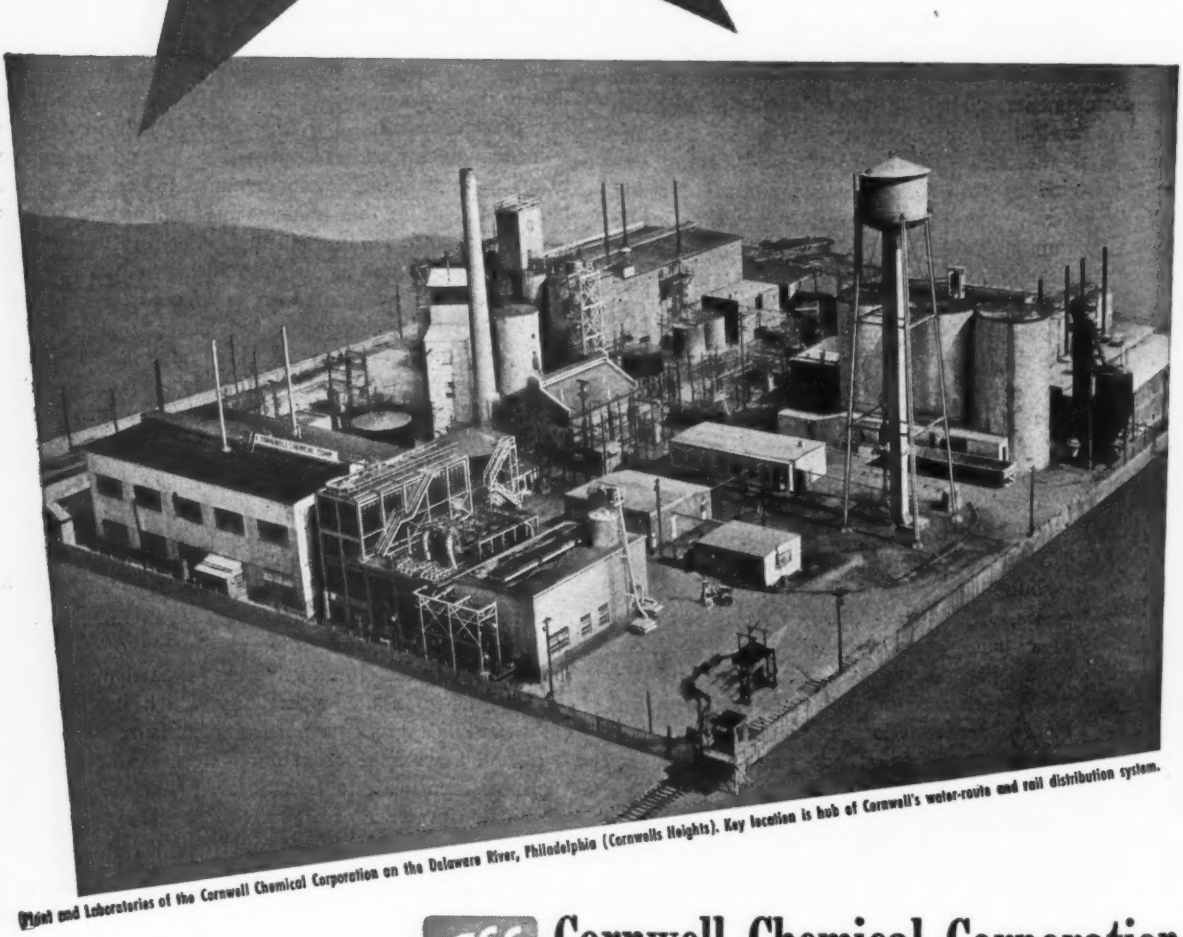
In extending to the International Paper Company a warm welcome to the ranks of the veterans, as that company passes the first 50-year milestone of its career the PAPER TRADE JOURNAL takes a particularly personal pleasure in the opportunity which it grasps so gratuitously. It gives us particular pleasure to be able to extend a welcome from our 75-year vantage point. We have been made to feel too often like mere youngsters in the presence of others who would regard us as mere striplings because they, in turn, have passed the century mark.

W. L. Cook

Editor

# SALT CAKE

.....paper makers' grade



Plant and Laboratories of the Cornwell Chemical Corporation on the Delaware River, Philadelphia (Cornwells Heights). Key location is hub of Cornwell's water-route and rail distribution system.

**Cornwell Chemical Corporation**

CORNWELLS HEIGHTS (PHILADELPHIA), PA.

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SECTION OF THE

TECHNICAL ASSOCIATION
OF THE PULP AND PAPER INDUSTRY

122 E. 42nd ST., NEW YORK 17, N. Y. Edited By R. G. MACDONALD, Secretary

# Nonfibrous Raw Materials Report—1947*

By E. N. Poor[1]

In general, the outlook for the paper and paperboard industries for the next several years has been predicted excellent by many students of business activities. However, the chemical outlook appears rather gloomy. Many materials are in short supply and prices have been on the increase. However, with increased production of many chemicals anticipated in 1948, it is hoped that the situation will show an improvement.

## Caustic Soda

In spite of the fact that the war has been over a considerable period of time, the paper industries as well as other consumers have not found caustic soda to be any freer. In some cases, suppliers have been unable to furnish the maximum amounts requested by paper manufacturers. This condition will continue in the tight supply, despite some increased production. There will be some added productive facilities coming in the South and Southwest, and this should improve conditions in that area. We should expect the tight situation to continue for at least another year.

As all know, the quality of caustic soda, in general, has been on the rise for the past few years. Along with this has been a gradual increase in the manufacturing costs and this has resulted in some increases in prices in 1947.

There have been no new uses developed during the past year, and this is probably a reflection of the fact that the supply of caustic is so short.

Again it must be reiterated that there is no substitution for caustic soda. There has been some use of ammonium compounds during the past year, and this may in time be of very great interest in the paper field. However, there are many questions and technical problems which must be answered before this type of material could be substituted for alkali in the paper field.

In regard to the outlook for 1948, as mentioned before, this commodity is expected to be tight during the year.

## Lime

Lime prices increased in 1947 due to the extremely high jump in the cost of fuel, also increases in the other raw materials used in the manufacture of lime, also wage increases.

The lime market, in general, has been very tight, and it is the opinion of the lime producers that this condition will continue during 1948. New plants that will be consumers of lime are expected to start operation in 1948 and will offset any new lime production that may develop.

No new uses are known for lime in particular that have been developed during the past year.

## Soda Ash

The market for soda ash, although currently tight, is expected to become normal for 1948 as new production enters the field.

The excellent quality of soda ash has been well maintained under adverse operating conditions, and it is expected will continue throughout 1948. The price of soda ash has increased 10 cents per hundred weight carload lots effective October 1, 1947.

Substantial quantities of soda ash have been used in semichemical pulping and in replacement of salt cake in the kraft industry. It is anticipated that the former use will expand materially throughout 1948.

Soda ash continues to be the most economical and commonly used form of alkali for pulp manufacturers. It can be converted readily to caustic soda, hypochlorite, sulphite and sulphide, basic chemicals used in the industry. No economic substitute has been found to replace it.

## Salt Cake

The salt cake situation has not improved since the last report. Investigation shows the Province of Saskatchewan, Canada has recently constructed two reservoirs at Lake Chaplin which will have a brining capacity of from 45 to 50 minute gallon each and which will represent a capacity of upwards of 100,000 tons per year, dry sodium sulphate basis. We understand there is a possibility that there might be some natural cake available in the Dakotas, the properties being controlled by Ozark Chemical Company.

Unless new sources of salt cake are found for 1948, the paper industry is going to be in a rather bad way. Apparently it will be some time before Europe is again an exporter, and the only possibility is to find new natural reserves in the United States plus new production imported from Canada and South America.

## Chlorine

Quantity available for all industry has show some increase during 1947 and will show further increase during 1948.

* Presented at the Annual Meeting of the Technical Association of the Pulp & Paper Industry, Hotel Commodore, New York, N. Y., Feb. 23-26, 1948.

[1] Member TAPPI; Chairman Nonfibrous Raw Materials Committee; American Cyanamid Co., Stamford, Conn.

Future price trends are unpredictable. No variation in quality.

New uses and expansion of old uses are developing, principally in the chlorination of petroleum products.

There are no substitutes of importance.

Indications are that production will come into balance with consumption during 1948.

### Sodium Peroxide

Sodium peroxide demand is expected to continue to exceed the supply in 1948.

There has been no change in the price or the quality of sodium peroxide during 1947.

The use of sodium peroxide for groundwood bleaching has increased considerably in 1947 and a further expansion is expected in 1948.

Research and development work is continuing to show favorable trends in applications for bleaching other types of wood pulps.

From a technical point of view hydrogen peroxide and sodium perborate are interchangeable with sodium peroxide for pulp bleaching. Economic considerations govern the choice of a peroxygen compound for this use.

### Sulphur

Domestic and foreign shipments of sulphur have continued to increase and, as a result, stocks at the mines have been reduced. Nothwithstanding this continued high demand for sulphur, domestic and Canadian consumers can be assured of an adequate supply of sulphur to meet their full requirements.

The sulphur industry, in common with all others, has had substantial increases in costs since the prewar period. The sulphur price increase announced in 1947 amount to only 12½% of the base price of sulphur at the mines and represented the first increase since 1926. The present domestic price of $18 per long ton f.o.b. cars mines and $19.50 per long ton f.o.b. Gulf ports compares with the foreign price of $22 per long ton f.o.b. Gulf ports.

The high quality of sulphur remained unchanged, averaging better than 99½% pure.

No new uses in the paper industry have come to attention during the year, but new uses and applications in the general field of chemical industry continue to be developed as in past years.

No substitutes for sulphur have been developed or proposed in the paper industry.

There is no indication of any slackening in the heavy requirements for sulphur, and the outlook for 1948 is one of continued high demand. The prospect for filling this demand has been discussed under No. 1.

### Sulphur Dioxide

The above compound should be available during 1948, although in some areas tank car equipment may delay prompt shipments. Storage facilities should be installed by large users of liquid sulphur dioxide.

No immediate change in price schedules or quality of liquid sulphur dioxide are expected for 1948.

There has been increased interest in the use of sulphur dioxide after peroxide bleaching in groundwood, intense fortification during the warm weather months, and in several other processes involving research work by individual mills.

The outlook for 1948 for liquid sulphur dioxide in the pulp and paper industry should be very satisfactory.

Zinc hydrosulphite is now available for prompt shipment in carload quantities. Purity of Virginia Zinc Hydro is at a maximum today. It runs 82% $ZnS_2O_4$ or more. There has been a renewed interest in this high quality product by a large number of groundwood mills and by other research men interested in a powerful reducing agent at a satisfactory price.

There is no comment on the outlook for 1948 at the moment.

### Rosin

Stocks of rosin in this country reached an extremely low level at the start of the current producing season, on April 1, 1947, and, due to high domestic consumption and to a considerable volume of exports, stocks have remained relatively low. This is particularly true of dark and medium color grades because of a continued trend toward production of paler colors.

Prices declined precipitously at the start of the gum rosin producing season, in April, 1947, but strengthened again when the producing season neared its end and when it appeared that reserve stocks were not increasing as much as expected by many.

Capacity for producing wood rosin has increased, although one large new plant was delayed in getting into production. High prices are expected to stimulate the production of gum rosin in 1948, which, together with increased production of wood rosin, should provide increasing supplies as 1948 progresses. However, it should be repeated that stocks of the darker grades will probably remain scarce and that many consumers will find it necessary to turn to grades which are paler in color and usually more expensive that those ordinarily desired.

### Casein

Except for the first few weeks of the year, casein was readily available throughout 1947. Domestic production, although well under prewar volume, was substantially higher than 1946 and supplies were further augmented through the importation of Argentine material.

Prices, which were in the range of 48 to 50 cents per pound as the year opened, declined rapidly during the spring months, reaching a low of approximately 24 cents per pound during June. As production declined during July, prices climbed rapidly, leveling off at about 32 cents per pound in early August. At this writing it is rather difficult to predict price trends through the winter months. Extremely heavy demand and resulting high prices for nonfat dry milk solids preclude the possibility of near term price reductions on domestic casein, but Argentine price trends are obscure. Market levels will undoubtedly depend upon the volume of demand.

Prospects are bright for further improvement in the volume of domestic production during 1948 with corresponding reductions in sales price. Producers, aware of the fact that high casein prices encourage the use of other proteinaceous materials as substitutes, will endeavor to maintain sales prices at lowest possible levels.

### Glue

Although the extreme hot and humid weather through the summer of 1947 resulted in reduced production of animal hide and bone glues, total glue production for the year 1947 is comparable to any past peak production year. However, demand continues greatly in excess of supply and requires manufacturers to continue allocating production. This is brought about through all users of animal glue requiring supplies to maintain their own volume production.

Imports of animal glue, particularly quality grades, are practically nil and a survey of world markets indicates domestic supply cannot be supplemented with imports during 1948.

With the record cattle-kill expected through the 1947-1948 winter and spring seasons, sufficient raw materials are expected to be available for animal glue production at very close to plant capacities and should result in supply being almost adequate to meet demand, although not to the extent that manufacturers will be in position to make releases without some limitations.

Animal glue prices remain firm and although advances are not contemplated by producers, prices of cattle, hides and other byproducts of packing houses and tanneries, will reflect in the price of animal glue. With a general decline in prices of animal products, animal glue raw materials should be lower and result in lower prices of all animal glues.

### Starch

Demand for starch continues to be heavy. Distribution of starch is governed largely by its past usage. Prices have increased about 45% since January 1947, but the last change was a decrease of 30 cents per hundred weight. In general, price depends upon Government policy, the present trend being toward a lower price. It is predicted that the supply of corn for 1948 will be sufficient for full processing.

No satisfactory substitute for starch has been obtained.

### Alum

Commercial Alum. The consumption of alum by the paper industry continues at full plant capacities, but requirements are being met in full.

There have been no changes in the quality of commercial alum nor have any substitutes been suggested. No new uses for alum, either in the paper industry or otherwise, have been developed.

The requirements of the paper industry for alum during 1948 are expected to be met by continued full plant productions. Prices are not expected to change except in proportion to other heavy chemical trends.

Iron Free Alum. The supply, demand and prices of iron free alum have not changed significantly during 1947 and no abrupt changes are expected during the coming year. Consumption approximately balances plant capacities.

Sodium Aluminate. The availability of sodium aluminate for the paper industry has been limited by the alkali shortage but most demands have been met. There has been no significant change in the price or quality. The demand is expected to continue heavy.

### Clay

During 1947 up to now supply and demand for both filler and coating grades of domestic clays have come much more nearly into balance. Practically all needs are being filled and shipments, in general, are going out on schedule. There is, however, no visible excess of supply and no particular anxiety on the part of either producers or consumers.

To the best of present knowledge, there have been no changes in the prices of domestic filler clays during the first 9 months of the year. Present conditions in the industry indicate no likelihood of changes for the balance of the year.

Quality of domestic coating clays continues good. Filler clays currently appear to be acceptable by prewar standards, and little or no material of the poor quality occasionally seen during 1946 has been supplied this year.

Expansion of capacity on machine-coated book papers during 1947 has been appreciable, but the starting dates of practically all of the expanded operations have been delayed from three to twelve months.

### Zinc Sulphide Pigments

The shortage which has existed in paper fiber and the consequent tendency to use lighter weights while attempting to maintain opacity has resulted in a heavy demand for technically pure zinc sulphide, Cryptone (containing approximately 50% zinc sulphide), and lithopone.

The zinc sulphide pigments are also in demand for absorbent paper for the making of laminated board. These pigments maintain a better color than other opacifying pigments with the urea and melamine resins used in building up these laminated boards, and their use is growing to provide good finishing effects for both white and printed top ply sheets.

The postwar demands from all markets served by the various grades of zinc sulphide pigments have resulted in a very tight situation, in no way alleviated by increases in price. The increase in the case of both technically pure zinc sulphide and lithopone since last year's report has been 1 cent per pound. The present price for technically pure zinc sulphide is now 10½ cents, and for lithopone, 6 cents.

Every indication is that the paper industry, in common with all other consuming markets, would be using a considerably greater tonnage of these pigments if they were available, inasmuch as it is well recognized that none of the commonly used fillers can compete in performance with the zinc sulphide pigments where a high degree of whiteness, brightness and opacity is desired.

### Titanium Pigments

Titanium pigments have not increased in availability to any marked extent during 1947 though additional plant facilities have been under construction during the year and there should be a considerable increase in tonnages available in 1948.

Price changes were made during 1947.

New uses for titanium pigments have been developed during the past year or so but have been held in abeyance because of the shortage of supplies. It is anticipated that some of these newer uses, such as plastics, will use appreciable amounts when the pigment is more freely available.

There are no new developments in connection with substitutes for titanium pigments.

The outlook for 1948 is governed almost entirely by productive capacity.

### Dyestuffs

The large demand for dyes has continued unabated so far this year. Production has been at a very high level. While there have been shortages of certain dyes, the supply on the whole has been generally satisfactory.

Prices as of December 1, 1946 were maintained until the latter part of August when advances occurred ranging from 5 to 15%, the minimum and the maximum applying to dyestuff groups of relatively minor importance. The prices of some of the important dyes were not increased at all. These advances bring the prices of dyes to a level less than 20% higher than prewar. In general, the quality was satisfactorily maintained.

No new uses were developed during the year.

There were no substitutions other than the substitution of certain standards for others which were temporarily unavailable.

The outlook for the coming year is that the large

demand will continue, particularly for certain types, and that production will be maintained at a high level.

### Synthetic Resins

Acrylic and alkyd resins became readily available during 1947 and prompt shipment was made against purchase orders as received. It does not appear likely that the acrylic resins will become scarce in 1948.

Urea and melamine resins remained in short supply during 1947, due to formaldehyde and urea shortages. The formaldehyde situation is improving and it is anticipated that the last quarter of 1947 will see adequate supplies of melamine resins. The availability of urea is not expected to improve until the spring of 1948, when additional productive capacity will come into operation.

The quality of acrylic, alkyd and urea resins was maintained at the same high level during 1947. Several improved resins were introduced.

The price of acrylic resins remained constant during 1947. Alkyds present an entirely different story, and fluctuated in price frequently throughout the year, due to the changing costs of the various raw materials. Price of urea resins remained unchanged.

Urea resins were reacted with starch, and the resulting product was used as a sizing agent on paperboard prior to impregnation with wax. Wet strength urea resins were added at the beater to improve the wet rub resistance of paperboard. For the first time sizable quantities of resin were used for this application. A combination of an alkyd and a urea resin was found to improve the transparency of paper. Recent research has indicated that some alkyds have a marked softening action on paper.

Consumption of urea, alkyd, and acrylic resins for paper applications is expected to increase greatly during 1948. Oddly enough the present strong demand for paper has greatly restricted the use of synthetic resins in paper. Most manufacturers argue that they can sell all the paper which they can manufacture, and that additional improvements are not necessary at this time. This is particularly true in the case of the wet strength resins. An expanded use of these materials will await the return of a competitive market. By mid-1948 the availability of urea and of acrylic resins should be excellent. The situation in the case of alkyds is somewhat problematical, and will depend to a large extent on the available supply of phthalic anhydride. In 1948 it is expected that there will be an increase in the production of wet strength paper. The trend toward specialties is increasing and many mills are investigating the use of resins for their papers.

### Enzymes

The trend certainly continues toward greater use of enzyme converted starches for all types of starch applications, including sizing, coating and laminating. The more widespread use of automatically controlled cooking equipment tends toward better and more uniform conversions through elimination of variations in time and temperature controls. From the price standpoint, there are not known any changes during 1948, nor of any contemplated for next year. In fact, enzymes are one of the few products which carry the same price tag as before the war. Although the quality of enzymes as a whole has been improved, there has been no major change in this respect during the past year. The supply of enzymes is ample to meet all normal demands.

### Plasticizers

A substantial improvement in the over-all plasticizer supply has taken place during the past 10 months. Of the standard softening agents; glycerin, invert sugar and Sorbitol appear to be in satisfactory positions, with the glycerin future somewhat in doubt at present. Corn product plasticizers are adequate at this time, although here again the future is uncertain. The glycols and urea remain in short supply.

### Glycerin

The glycerin supply situation is seen as being considerably improved over last year and at the present time the producers are generally making prompt deliveries to both old and new customers. Barring radical changes in the supply of fats and oils available to soap makers, the outlook may be expected to continue to brighten. There are uncertainties, however, such as the effect on tallow stocks of possibly reduced farm feeding of cattle, due to prevailing high corn prices, as well as the amounts of fats, oils and glycerin that may be purchased for export during the coming year. Both these factors will have a bearing on the domestic supply of glycerin and it is too early as yet to properly evaluate their importance.

A development of great interest to all glycerin consumers is the construction, now under way, of a plant to produce glycerin synthetically from propylene, chlorine and caustic soda. At latest report it was expected that production of high quality, C.P. glycerin would begin about July 1, 1948. Present plans are to confine production to this one grade, with a possibility of other grades being developed later on. It is said that annual volume may be in the neighborhood of 30,000 000 pounds, which should be of great assistance in filling the demand for this increasingly important product.

Glycerin prices have notably declined from the high point reached early in 1947, when some consumers were reported to be paying as much as $1.00 per pound on spot purchases. High gravity glycerin is currently quoted at 29.25 cents in tank cars; 29.5 cents in drums, carload and 30 cents in drums, l.c.l. Present opinion is that the producers will attempt to hold this level in spite of an increase in tallow prices from 12 cents per pound to 21 cents per pound within a 5-week period.

### Invert Sugar

Industrial rationing of this plasticizer was finally terminated July 28, 1947, due to a considerably improved cane sugar supply situation. A mild form of inventory control was then instituted, which was in effect until August 30, 1947. Price controls are set to automatically expire October 31, 1947, after which it is believed that the Government will attempt to hold the present price structure in view of the fact that the Commodity Credit Corporation is still the owner of the current raw sugar crops of Cuba and Puerto Rico. These sugars will constitute by far the greater part of the supplies available to the refiners until new crop, offshore sugars begin to arrive in February 1948.

The producers of invert sugar are now filling all orders promptly and expect this favorable position to continue. Current prices are ranging from $8.15 to $8.65 cwt. drums, f.o.b. works.

### Corn Sugar and Syrup

At present these products are reported to be in fairly adequate supply and prompt deliveries are the general rule. As to the future, however, there still remains uncertainty, with everything depending on the final harvest of the current corn crop, when quantity, quality and prices can be determined. The most recent estimates point to a quantity considerably under last year, while quality may be injured at any time by an early, killing

frost that would result in excessive amounts of wet, soft corn.

The return of cane sugar to an unrationed status and fairly plentiful supply will probably help in easing the demand for corn products as sweeteners. In addition, a new plant is expected to be in productoin before long that will increase the corn wet-milling potential.

High corn prices are presently keeping corn plasticizer prices correspondingly high. Dextrose is currently quoted at $7.30 cwt. bags, carload; 42° corn syrup at $7.14 cwt. ret. drums, carload and 43° corn syrup at $7.19 cwt. ret. drums, carload. All Chicago basis.

### Glycols

Very little improvement can be noted in the supply of diethylene and propylene glycols. Deliveries are fairly prompt, but the producers are said to be accepting little new business and are trying to avoid building up back log orders. Scarcity of chlorine is hampering any expanded production. Prices remain stable at 13 cents in tank cars; 14 cents in drums, carload, and 15 cents in drums, l.c.l.

### Sorbitol

The situation on sorbitol is greatly improved. Deliveries are prompt, with new business being accepted. The development of a new high pressure, catalytic technique, together with the construction of a new plant, has resulted in greatly expanded production of high quality sorbitol. Prices are stable at 25.5 cents in drums, carload and 26 to 35 cents in drums, l.c.l. f.o.b. works.

### Urea

This material is still in extremely short supply, due to increased demands and consumers are said to be receiving allocations based on past performance. It is reported that a projected plant may come into production late in 1948. Until such time and unless imports increase substantially, which seems unlikely at present, the situation can be expected to remain very tight. Current quotations are $73.00 ton, bags, carload and $75.50 to $80.50 ton, bags, l.c.l. f.o.b. works.

### Wax Sizes

The application and usage of wax sizes in paper manufacturing during 1947 paralleled that of the previous year. Increases in costs of the various waxes and emulsifying agents as well as container and processing charges were necessarily reflected as higher prices for wax sizes. Despite this undesirable situation the industry maintained its consumption of these materials.

Earlier in the year, white crude scale wax was quoted around 6 cents per pound. During the succeeding months continued upward adjustments were experienced until the product now is selling for upwards of 7½c per pound. The supply has not been plentiful despite the higher prices.

Fully refined paraffin was quite limited in supply although the price itself changed very little during the year and is still approximately 8 cents per pound.

Although there was little change in price structure of microcrystalline waxes there was not an appreciable change-over to wax sizes made from this type. Apparently the industry preferred to use the crystalline wax though higher in cost.

Lower cost wax sizes have been developed for general usage in coarser types of papers. The petroleum industry is developing newer waxes for such applications and possibly in the near future we may see improved waxes for size emulsions.

At this moment there appears to be a little change in the offing relative to the supply and price situation on waxes for 1948. A strong domestic and export market indicates little hope for downward prices, at least in the early part of the year. However, wax size manufacutrers should obtain sufficient raw materials to take care of the industry's needs as well as expand in their application.

Quality is still a prime requisite for wax emulsions in paper manufacture. Applications have remained about the same with the industry using wax sizes to impart better water, ink, lactic acid and blood serum resistance, improve pliability or flexibility of paper, and improve finish, scuff resistance, and resistance to printing inks.

### Contributors to Report

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Sulphur, D. B. Mason, Freeport Sulphur Co., New York, N. Y.
Sulphur dioxide, A. K. Scribner, Virginia Smelting Co., West Norfolk, Va.
Chlorine, S. W. Jacobs, Niagara Alakli Company, New York, N. Y.
Sodium peroxide, J. S. Rechert, E. I. duPont, Niagara Falls, N. Y.
Rosin and casein, J. C. Dieffenderfer, Hercules Powder Co., Wilmington, Del.
Alum and sodium aluminate, J. P. Bainbridge, Jr., Monsanto Chemical Co., Boston, Mass.
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Starch, L. O. Gill, A. E. Staley Mfg. Co., Decatur, Ill.
Starch, J. P. Strasser, Stein-Hall & Co., New York, N. Y.
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Dyestuffs, C. F. Schauman, E. I. duPont, Wilmington, Del.
Wax sizes, G. E. Fromm, American Cyanamid Co., New York, N. Y.

## TAPPI Notes

Russel G. Erickson is now resident manager of Ravonier, Inc., Fernandina, Fla.

Frederic C. Haves, formerly of Shipping Containers, Ltd., is now president of Container Statistics, Ltd., 104 Rosedale Heights Drive, Toronto, Ont.

Hobart L. Geer, formerly of W. C. Hamilton & Sons, is now senior research physicist for the Hammermill Paper Company, Erie, Pa.

C. E. Geddes Thompson, formerly of Thomson-Smeltzly Corporation, is now operating the North Shore Blue Print Company, 904 Sherman Ave., Evanston, Ill.

Charles N. Ridley, formerly of Thomas Owen & Company, is now chief chemist of the Clyde Paper Company, Ltd., Rutherglen, Scotland.

Richard D. Dunlop is now technical director of the Monsanto Chemical Company, Texas City, Texas.

Allan C. Hill, formerly of the Gaspesia Sulphite Company, is now with Clarke and Moore, 400 Madison Ave., New York 17, N. Y.

Benton R. Cancell has succeeded Robert Bell-Irving as official corporate representative of the Powell River Company, Vancouver, B. C., in the Technical Association.

C. C. Chang, who has been studying papermaking in the United States has returned to the Central Paper Mill in Shanghai, China.

C. F. D. Beuker, president of Van Gelder Zonen, Royal Paper Mills, Amsterdam, Netherlands, is visiting in the United States.

The TAPPI Kalamazoo Valley Section will meet at the Columbia Hotel, Kalamazoo, Mich. at 6:30 p.m. Thursday, February 5th. M. C. Welker of the American Cyanamid Company will talk on "Water, White Water and Ion Exchange Resins." There will be an exhibit and demonstration of laboratory models of water demineralizers.

# Chemical Analysis of Western Woods,

## Part I

By E. F. Kurth[1]

**Abstract**

*Four species of western hardwoods, and three species of western softwoods were analyzed for ether, alcohol, and water extractives, holocellulose, lignin, methoxyl group, and ash content in accordance with applicable TAPPI Standard Procedures. Pentosan determinations were made in accordance with the method of the Association of Official Agricultural Chemists. The holocellulose and lignin procedures gave products amounting to 100% of the moisture-free weight of the extractive-free woods.*

The present work was undertaken with two purposes in mind: (a) to develop information on the chemical composition of woods on which little or no analytical work has been performed and (b) to observe the experiences of analysts with the current TAPPI Standard procedures for wood analysis. In this connection, seven species of western woods were analyzed for their extractive (ether, alcohol, and hot-water), holocellulose, lignin, pentosan, methoxyl group, and ash content. The species included four hardwoods (Cascara, *Rhamnus purshiana;* Pacific dogwood, *Cornus nutallii;* Pacific madrone, *Arbutus menziesii;* and California laurel, *Umbellularia Californica* and three softwoods (Douglas fir, *Pseudotsuga taxifolia;* Sierra juniper, *Juniperus occidentalis;* and Pacific yew, *Taxus brevifolia).*

Representative wood specimens containing both sapwood and heartwood were obtained from the School of Forestry, Oregon State College. They were room-dried to a moisture content of between 7 and 8% and reduced to particles passing a 40-mesh screen in a Wiley mill. The ground wood was stored in sealed glass jars according to TAPPI Standard T 11 m, Sampling and Preparing Wood for Analysis. Analyses were made on the total wood sample passing a 40-mesh screen except the holocellulose determination which was made on the 40 to 60 mesh fraction.

Ether soluble (T 5 m-45), 95% ethyl alcohol soluble (Soxhlet extractor), and hot water soluble (T 1 m) were determined successively in that order, and the sum of the three extracts is the total extractive given in column 4, Table I. When determined in this order, considerable information may be derived on both the yield and nature of the materials comprising the extractives *(4).* For example, the ether soluble is a measure of the oil, fat, and resin content; the alcohol soluble represents the coloring matter, tannin, and phlobaphene present; and the hot-water soluble gives an estimate of the soluble carbohydrates, acids, and salts content.

Ash (T 15 m-45), holocellulose (T 9 m-45), lignin (T 13 m-45), methoxyl groups (T 2 m-43), and pentosan were determined on extractive-free wood 6 to 7 chlorinations and extractions with hot 3% prepared in accordance with TAPPI Standard T 12m-45. In the absence of a standard method for pentosan in wood, the procedure of the Association of Official Agricultural Chemists was used *(1).* The mean values of duplicate determinations are given in Table I.

[1] Member TAPPI; Chief Chem., Util. Section, Oregon Forest Products Laboratory, Corvallis, Ore., and Professor Wood Chemistry, Oregon State College, Corvallis, Ore.

### Results

The ether and alcohol extracts were dried to constant weight within 1 to 2 hours drying time in an oven. All of the woods contained less than 2% of ether-soluble matter, except the Sierra juniper. Investigations in progress in this laboratory on the composition of the extractive from Sierra juniper have revealed the presence of cedrol, rosin acids, a mixture of fatty acids, and a crystalline dicarboxylic acid, $C_{15}H_{21}O_6$, m.p. 229°C., having a neutralization equivalent of 150, and giving a monomethyl ester that melts at 136°C. All of the above substances are soluble in ether whereas the part soluble in alcohol consists of a catechol tannin and phlobaphene. Pacific yew contains a natural coloring matter that is only slowly removed on solvent extraction. Dogwood contains a small amount of tannin *(2),* and a chemical investigation of the extractive from Douglas fir in progress in this laboratory since 1945, has established the presence of phytosterol, oleic, linoleic, behemic, lignoceric, and rosin acids in the ether extract, a pentahydroxy flavanone compound, m.p. 242°C. dec. and a catechol tannin in the alcohol extract; and a gelactan in the aqueous extract *(3).*

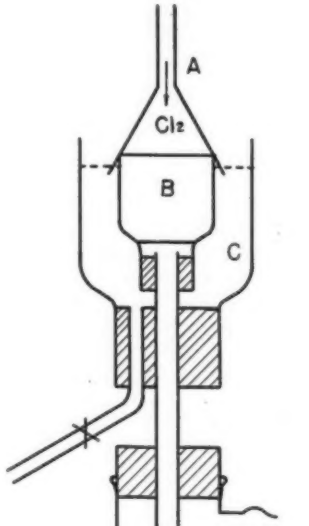


FIG. 1

TABLE I.—ANALYSIS OF WESTERN WOODS
(Per cent of moisture-free weight of materials *)

| Wood | Ether Soluble (1) | Alcohol Soluble (2) | Hot Water Soluble (3) | Total Extractive (4) | Holocellulose (5) | Lignin (6) | Pentosan (7) | Methoxyl (8) | Ash (9) |
|---|---|---|---|---|---|---|---|---|---|
| Cascara, *Rhamnus purshiana*..... | 0.66 | 4.84 | 1.38 | 6.88 | 82.1 | 17.5 | 23.6 | 4.18 | 0.23 |
| Pacific dogwood, *Cornus nuttalli*..... | 1.42 | 3.77 | 6.22 | 11.41 | 78.26 | 22.21 | 23.03 | 4.29 | 0.22 |
| Second growth Douglas fir, *Pseudotsuga taxifolia* ..... | 1.32 | 5.46 | 2.82 | 9.6 | 71.40 | 29.35 | 10.11 | 4.75 | 0.18 |
| Sierra juniper, *J. occidentalis*..... | 2.16 | 2.87 | 0.20 | 5.23 | 64.74 | 35.18 | 15.98 | 5.69 | 0.36 |
| Pacific madrone, *Arbutus menziesii*... | 0.26 | 6.31 | 6.08 | 12.65 | 81.40 | 19.07 | 19.37 | 5.05 | 0.09 |
| California laurel, *Umbellularia Californica* ..... | 0.61 | 4.55 | 3.09 | 8.24 | 77.79 | 22.57 | 22.38 | 5.70 | 0.16 |
| Pacific yew, *Taxus brevifolia*..... | 1.33 | 7.38 | 0.25 | 8.96 | 70.79 | 28.90 | 11.75 | 5.56 | 0.28 |

* Solubilities are calculated on moisture-free weight of unextracted wood, all other analyses are calculated on the moisture-free weight of extractive-free wood.

No information appears to be available on the chemical composition of the extractives in the other wood species.

The sum of the holocellulose and lignin content should equal 100% of the moisture-free weight of the extractive-free wood when both determinations are made on the same wood sample. Although the holocellulose was determined on a screened 40 to 60-mesh wood fraction and the lignin was determined on the whole wood sample, close agreement with this value was obtained in the present analyses as shown in Table II. Where lignin determinations were made on both the whole wood sample and on the 40 to 60-mesh fraction, some differences were observed (Table III).

Most of the woods appeared to be delignified with ethanolamine-alcohol solution. In this connection, all of the analysts experienced some difficulty in ascertaining the end-point of delignification when performed in accordance with holocellulose procedure T 9 m. After 6 or 7 chlorinations, the product was bleached white and little additional color was extracted with the hot ethanolamine-alcohol solution. The product, however, was often colored a light tan or yellow by the addition of the ethanolamine-alcohol solution. With Pacific dogwood, Pacific yew, and Sierra juniper, this color persisted even after 10 chlorinations and extractions. It appears advisable to extract three to four times with the hot ethanolamine solution after each of the first two chlorinations to remove the chlorolignin. "White label" Eastman Kodak Company grade of ethanolamine was used in the present work.

All of the holocellulose products were tested for residual lignin by the conventional 72% $H_2SO_4$ procedure. The cold 72% $H_2SO_4$ hydrolyzates were clear syrups that upon dilution with water, gave clear solutions or only traces of light colored amorphous precipitates as indicated in Table II. These observations do not support the conception that appreciable amounts of "lignin" are formed from the carbohydrates in wood in the conventional lignin determination.

"Pyrex" fritted glass filtering crucibles, M or C porosity, were found much superior to Gooch crucibles with an asbestos mat for lignin determinations.

TABLE II.—DELIGNIFICATION OF WESTERN WOODS

| Wood | Number of Chlorinations for Delignification | Color of Holocellulose | Lignin Residue in Holocellulose | Holocellulose Plus Lignin % |
|---|---|---|---|---|
| Cascara | 6 | light cream | absent | 99.6 |
| Pacific dogwood | 10 | cream | trace of floc. ppt. | 100.5 |
| Douglas fir | 7 | cream | absent | 100.7 |
| | 9 | white | absent | 99.2 |
| Sierra juniper | 10 | straw color | absent | 99.9 |
| Pacific madrone | 6 | white | trace of floc. ppt. | 100.5 |
| California laurel (myrtle) | 7 | near white | trace of floc. ppt. | 100.4 |
| Pacific yew | 10 | light yellow | 0.5% floc. ppt. | 99.7 |

A convenient chlorination apparatus for the isolation of the holocellulose is shown in Figure 1. This apparatus permits all chlorinations, washings, and extractions to be performed with the reaction crucible in the position shown.

The analyses have given data of scientific and technological interest on woods on which there was little previous information. Of the hardwoods, Pacific dogwood and Pacific madrone are relatively high in alcohol and water soluble extractives, whereas cascara wood is low in lignin and correspondingly high in holocellulose content. Sierra juniper has an unusually high pentosan content for a softwood, and it is also extraordinarily high in lignin content. Second-growth Douglas fir and Pacific yew gave quite similar analyses.

TABLE III.—LIGNIN CONTENTS OF THE WHOLE WOOD SAMPLE AND OF THE 40 TO 60 MESH FRACTION

| Wood | Lignin: 40-60 Mesh Fraction, % | Lignin: Whole Wood Sample, % |
|---|---|---|
| Douglas fir ..... | 29.35 | 30.15 |
| Sierra juniper ..... | 35.18 | 34.81 |


### Acknowledgment

Appreciation is expressed to D. P. Ashton, H. M. Graham, R. D. Graham, H. B. Lackey, Jean Mater, R. O. Osborn, and Ann Rydalch of Oregon State College for assistance in performing the analytical work.

Published with approval of the Monographs Publication Committee, Oregon State College, Research Paper No. 113, School of Science, Department of Chemistry.


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2. Benson, H. K., and Jones, F. M., *Ind. Eng. Chem.* 9, 1096 (1917).
3. Graham, H. M., Doctor's Thesis, 1947, Oregon State College (unpublished).
4. Kurth, E. F., *Ind. Eng. Chem., Anal. Ed.*, 11, 203 (1939).


## Chemical Process Calculations

The Macmillan Company has just issued "Fundamentals in Chemical Process Calculations" by Otto L. Kowalke, professor of chemical engineering, University of Wisconsin (158 pp. 6x8½).

This very useful book is essentially a manual prepared for students of chemical engineering to show the industrial applications of the elementary principles of industrial chemistry and chemical engineering.

Among the subjects covered are: density, pressure and its measurement, molal units, pressure-volume-temperature relations of gases, partial pressures, material accounts, combustion calculations, and heat losses in products of combustion.

Copies may be obtained from the Book Department of the Technical Association of the Pulp and Paper Industry, 122 East 42nd Street, New York 17, N. Y., at $2.80 per copy.

# Pacific TAPPI Section Plays Host to Technical Students

Scoring another "first" in what is already a long and impressive list of TAPPI activities, the Pacific Section of the Technical Association of the Pulp and Paper Industry entertained as its guests a group of sixty technical students and faculty representatives from seven universities and colleges in the Pacific Northwest at the regular section meeting at Camas, Wash., January 16. A hand-picked delegation of technical students from the University of Washington, University of Oregon, Oregon State College, Washington State College, Reed College, and Portland University arrived at the Camas mill, Crown Zellerbach Corporation at 9 a.m. for an inspection trip through the Camas plant. After the mill visit, luncheon was served to the group at the Crown Willamette Inn.

The regular TAPPI Technical Meeting convened at 2 p.m. at the Camas High School Auditorium. In addition to the student guests, over one hundred fifty TAPPI members attended the meeting. The theme of the meeting was: "Oportunities awaiting the young technical and engineering graduate for a career in the Pacific Coast pulp and paper industry."

Dr. J. L. McCarthy, Chairman, Pacific Section introduced Mr. A. G. Natwick of the Crown Zellerbach Coropration who officially welcomed the TAPPI members and their guests to Camas.

Tom Nicholson, Simpson Logging Co., Shelton, Washington then presented his paper in competition for the Shibley Award, entitled "Statistical Analysis For Plant Operation." In his paper, Mr. Nicholson developed an interesting discussion of the practical application of statistical control in improving the quality and lowering the production cost of insulating board. Chairman McCarthy also pointed out the importance of the Shibley Award Competition in the development of young technical men.

Wm. R. Barber, Technical Director, Crown Zellerbach Corp. and program sponsor for the Camas meeting was then presented to the session. Mr. Barber discussed the importance of keeping the pulp and paper industry in close touch with qualified technical graduates. He invited the students likewise to examine critically the oportunities which the industry has to offer as compared to other large employers of technical men. In connection with the importance and stability of the pulp and paper industry, Mr. Barber stressed the permanence of raw material supplies and the parmanent character of the market for pulp and paper Products. He then presented Dr. W. W. Moyer, Director of Research, Crown Zellerbach Corporation who presided as moderator for the panel discussion which followed.

Clarence Richen, Chief Forester, Crown Zellerbach Corp., and Ed Heacox, Chief Forester, Weyerhaeuser Timber Co. discussed the importance of a perpetual supply of the industry's basic raw material—wood, and the forester's role in assuring it. Mr. Richen explained the savings effected by hydraulic barking and whole log chiping, by better logging methods, utilization of sawmill waste, and more efficient wood preparation plants. Mr. Heacox enumerated a number of methods for increasing the yield of pulp timber species such as scientific tree thinning, protection of forests against fire, long range regulatory measures and improved utilization of existing timber stands.

M. E. Kinsey, Central Chemical Laboratory, Rayonier Inc. and Mr. R. G. Mispley, Central Research and Technical Dept., Crown Zellerbach Corp. followed with a highly interesting presentation of the importance of a perpetual market for the industry's products for sale—pulp and papers. Mr. Kinsey talked about the increasing consumption of dissolving pulps in the manufacture of rayon, cellophane, plastics, and film and the importance of these products to our standard of living. The many uses of paper and paper products in the daily life of an average man were interestingly woven into Mr. Mispley's story on paper.

R. I. Thieme, Technical Director, Soundview Pulp Co. discussed the pulp and paper industry from the viewpoint of the lanpt chemical engineer. In describing the transition of pulp and papermaking from a skilled art to a scientifically controlled technical industry, Mr. Thieme pictured the many opportunities wherein the chemical engineer can srve in lowering production costs and in developing new useful products.

The mechanical engineer's place in the industry was frankly depicted by R. P. Wollenberg, Chief of Engineering Division Longview Fibre Co. in his paper "The Industry from the Viewpoint of the Mechanical Engineer." Mr. Wollenberg explained how the young mechanical engineer can begin and advance in the industry in such work as the design of new plants and in the expansion of old plants.

The concluding speaker on the panel was Raymond S. Hatch, who spoke on the industry from the viewpoint of research. Mr. Hatch's paper was entitled "Accomplishment through research on the Pacific Coast and importance of the field in the future." In commenting on the importance of research in the nature of the noncellulose portions of wood, Mr. Hatch felt that this might eventually result in the development of an important organic chemical industry. He also mentioned new bleaching studies now under investigation and discussed the importance of research in the development of new paper products.

Afther considerable spirited discussion from the floor, the technical meeting adjourned at 5:30 p.m. to enjoy a social hour at the Crown Willamette Inn, details of which had been thouhtfulgly provided for by the host mill. A total of two hundred sixteen members and guests attended the TAPPI dinner which followed.

It was the extreme good fortune of Pacific TAPPI to have as dinner guests, Sir Herbert Gepp, Managing Director for Australia Paper Manufacturers, Ltd. and his associates, J. W. Thorpe and M. T. Jebart. Sir Herbert was introduced by Howard W. Morgan, Manager, Weyerhaeuser Timber Co., Pulp Division. An interesting account of a world wide inspection trip through pulp and paper mills, interspersed with innumerable

amusing stories was Sir Herbert's splendid contribution to a TAPPI Day at Camas which may well have far reaching significance in the future.

Those attending the Camas meeting were:

Jagdish C. Aggarwala, Victor J. Anderson, C. A. Anderson, Leslie L. Anderson, E. Clinton Ash, Jr., George T. Austin, Robert T. Axworthy, Wm. R. Barber, E. R. Barrett, Chet Beals, H. K. Benson, Jay F. Berkman, Eudore A. Barry, Paul S. Billington, F. Black, L. H. Blackerby, E. D. Boelter, en T. Briggs, Donald Brislain, James B. Brown, J. Harold Brown, Ben S. Bryant, Hugh E. Burdon, Stan Burkholder, J. F. Bunnett, R. A. Butler, Hebman J. Byrd, Allen M. Caddigan, Frank E. Caskey, Carl Castle, O. K. Chapman, G. W. Charters, Dudley F. Church, Edward Clapperton, William W. Clarke, Cecil K. Claycomb, H. R. Clodfelter, Thomas R. Conway, O. Corcoran, James F. Cormack, N. W. Coster, Fred Covell, J. V. B. Cox, Robert E. Davis, Robert B. Dean, R. D. Day, Harold A. Derry, Pete Dickie, Lionel E. Dowd, E. G. Drew, Wayne E. Duffy, Paul M. Dunn, Robert P. Dunn, Everett L. Ellis, A. E. Erickson, A. K. Esterer, Mrs. A. K. Esterer, Chester A. Fee, F. W. Flynn.

Harold T. Fretz, Leo Friedman, R. Frolander, D. C. Fulton, N. O. Galteland, G. H. Gallaway, Irving R. Gard, H. S. Gardner, V. C. Gaulttt, Sir Herber Gepp, E. G. Gjertsen, W. G. Goodwin, C. H. Graham, Howard C. Graham, Victor Granada, Bror L. Grondal, C. A. Grondona, Howard Hall, Wm. Hanot, Curtis T. Harper, John F. Hart, R. S. Hatch, E. F. Heacox, W. M. Hearon, Herbert tL. Hegert, H. R. Heuger, L. E. Hill, Jr., W. F. Hoffman, W. F. Holzer, R. B. Honeyman, James K. Hubbard, James H. Hull, Gilbert J. Hunt, John Hyslop, Bernard J Jacoby, W. C. Jacoby, Raymond W. Janz, M. T. Jebart, E. C. Jennings, A. B. Jerabek, Herman A. Johansen, Paul A. Johnson, Thomas D. Jolmson, Jr., Harry L. Jones, Lyal Jones, G. M. Julien, Harry Kiefer, E. Gray King, Glen D. King, M. E. Kinsey, Edward J. Kirkpatrick, Gordon M. Kirkpatrick, Jonh J. Klinger, Donald F. Knapp, A. H. Kunz, E. F. Kurth, Homer B. Lackey, Harold Lange, Carl Loron, H. Lundberg, Warren S. MacGregor, Jim MacNichols, Milton J. Maquire, T. S. Markoy, Wm. C. Marshall, James A. Martin, John B. Martin, Robert Maxwell, J. L. McClintock, Jr., C. Roland McCully, Robert W. McEachern, John M. McEwen, L. D. McGlothlin, Joseph S. McGrath, John J. McNair, Blake D. Mills, Jr., R. G. Mispley, J. H. Moak, R. B. Morden, Howard W. Morgan, Wendell W. Moyer, A. G. Natwick, Ben E. Natwick, George O. Nelson, Gus Ostenson.

L. B. Pagter, E. T. Parker, W. O. Parrish, R. V. Pazina, H. B Petersen, Warren W Philbrick, S. Posen, Ralph K. Pratt, Eric Reaville, F. J. Reithel, C. W. Richen, John Ringdahl, John E. Robison, J. A. Rowe, Jr., James C. Jarvis, Jack V. Savage, Fred L. Schmidt, Leon E. Semke, Brian Shera, L. R. Sherlock, D. L. Shinn, Ray Smythe, F. Stevey, R. G. Stewart, Allan Strang, Fred C. Stults, Jack Sutherland, D. F. Swinehart, Peter P. Taranoff, H. V. Tartar, Truman E. Teeter, H. W. Theller, Paul J. Theiss, Vernon L. Tipka, J. W. Thorpe, R. M. True, Preston Varney, E. A. Vistica, R. O. Vognild, Harold C. Wall, J. S. Walton, Mary Weible, Fred J. Weleber, J. W. Wenger, E. N. Wennberg, W. I. West, O. C. Wheeler, Francis O. Whipple, E. V. White, Peter M. Wilkie, John C. Will, Rob't M. Williams, R. P. Wollenberg, Bruce H. Wright, H. W. Wymore, T. R. Zegree.

## New TAPPI Members

The Executive Committee of the Technical Association of the Pulp and Paper Industry has elected the tollowing to membership:

Henry J. Anderson, Salesman, Marathon Corporation, Menasha, Wisconsin, a 1930 graduate of Northwestern University.

Ralph L. Hossfeld, Associate Professor, Wood Chemistry, University of Minnesota, University Farm, St. Paul, Minnesota, a 1942 graduate of the University of Minnesota with a Ph.D. degree.

Gerald I. Keim, Research Chemist, Hercules Powder Co., Wilmington, Delaware, a 1944 graduate of the Polytechnic Institute of Brooklyn, with a Ph.D. degree.

Douglass J. Kennedy, Assistant Engineer, P. J. Kennedy & Co., Holyoke, Massachusetts, a 1942 graduate of Harvard University.

John F. Kinnaman, Plant Engineer, Ball Bros. Co., Noblesville, Indiana. Attended Indiana University.

William B. Korcheski, Assistant Chief Engineer, T. A. Burton & Co., St. Catherines, Ont., Canada, a 1939 graduate of the University of Manitoba.

Franklin T. H. Ku, Trainee, Thilmany Paper & Pulp Co., Kaukauna, Wisconsin, a 1941 graduate of St. John's University.

John F. Langmaid, Jr., Assistant to Production Manager, S. D. Warren Co., Cumberland Mills, Maine, a 1931 graduate of Massachusetts Institute of Technology.

Olavi Laurola, Technical Adviser, Finnish Cellulose Association, Helsinki, Finland, a 1934 graduate of Technical University in Finland.

Leon Lhoest, Director, Royal Dutch Paper Mill, Maastricht, Holland, a 1925 graduate of the Technical University of Liege.

Robert J. MacMeekin, Chief Engineer, Economy Pumps, Inc., Hamilton, Ohio, a 1927 graduate of the University of Michigan.

John W. Natwick, Sales Service Engineer, The Bauer Bros. Co., Springfield, Ohio. Attended the University of Wisconsin.

Bengt Nyberger, Assistant Superintendent, Fernstrom Paper Mills, Inc., Pomona, California. Attended State School of Forestry, Technical Institute, and Royal Technical University, Stockholm.

William H. Owens, Chief Engineer, The Philip Carey Mfg. Co., Lockland, Ohio, a 1932 graduate of the University of Toronto.

Wesley L. Pearl, Student, The Institute of Paper Chemistry, Appleton, Wisconsin, a 1942 graduate of the University of Washington.

Edgar M. Pierce, Mechanical Engineer, Chas. T. Main, Inc., Boston, Massachusetts, a 1933 graduate of Massachusetts Institute of Technology.

Charles R. Reddall, Manager, H. P. Gregory & Co., Pty. Ltd., Sydney, N.S.W., Australia.

Wilfrid T. Roberts, Chief Chemist, Thomas Owen & Co. Ltd., Ely Paper Works, Cardiff, South Wales, a 1934 graduate of University College, Cardiff.

Lennart Schauman, Technical Director, A. Ahlstrom O/Y, Kauttua, Finland, a 1942 graduate of ABG Akademi.

Wilfred W. Scheide, Superintendent, American Coating Mills, Division Owens-Illinois Glass Co., Elkhart, Indiana. Attended the University of Cincinnati.

William J. Shelton, Pulp Mill Superintendent. Longview Fibre Co., Longview, Washington, a 1934 graduate of Washington State College, with an M. S. degree.

Russell W. Shew, Superintendent, Ball Bros. Co., Noblesville, Indiana.

# United States Patents on Papermaking

## Fourth Quarter, 1947

**Compiled by Clarence J. West, Chairman, Committee on Bibliography, TAPPI**

The following list of patents has been compiled from the current numbers of the Official Gazette of the United States Patent Office. Because, as a rule, only one claim is published in the Gazette, it is not claimed that the list is complete; also, it is possible that the list may contain some patents that do not apply specifically to pulp and paper manufacture.

Copies of any of the following patents can be obtained from the United States Patent Office, Washington 25, D. C., by sending twenty-five cents for each patent desired.

Previous lists of patents for 1947 can be found in PAPER TRADE JOURNAL 124, no. 20:45-46 (May 8, 1947); 125, no. 3:36, 38, 40 (July 17, 1947); and 125, no. 16:56-59 (Oct. 23, 1947).

### OCTOBER 7, 1947

2,428,358. Artificial resin and method of coating paper therewith. Eric Cohnhoff, Saint Mercelin, France; vested in the Attorney General of the United States. Filed Sept. 29, 1942. 2 claims. (Cl. 117-122). B.I.P.C. 18:211. The resin consists of 42.86-43.75% of crude phenol, cresol, or guaiacol, 45.16-48.25% of 40% formaldehyde, 5.33-5.49% hexamethylenetetramine, 1.8% of 25° Bé. ammonia, and 1.78-3.84% tannin; the mixture is heated to 70° C., cooled to 30° C., and the aqueous solution of resin is separated. Paper is impregnated with this resin and then heated gradually to 96-130° C.

2,428,384. Pocketed molded pulp receptacle. Walter H. Randall, assignor to The Canal National Bank of Portland, Portland, Maine, and William B. Nulty, Portland, Maine, as trustees. Filed July 14, 1945. 2 claims. (Cl. 229-2.5). B.I.P.C. 18:211. Pulp is molded into a receptacle suitable for the shipment of fragile articles such as incandescent lamp bulbs, etc.

2,428,385. Apparatus for mounting thin metallic foil on carrying webs. Richard S. Reynolds, Richmond, Va. Filed May 12, 1943. 7 claims. (Cl. 154-37). B.I.P.C. 18:210. A method is given for the mounting of aluminum foil on a paper or other web.

2,428,387. Processing of refined chemical pulp into viscose by adding cation active sulphonium compounds. Paul H. Schlosser and Kenneth R. Gray, assignors to Rayonier Incorporated, Shelton, Wash. Filed July 16, 1943. 16 claims. (Cl. 260-217). B.I.P.C. 18:213. Refined chemical pulps are treated with 0.1-0.2% of a cation-active sulphonium compound; laurylmethylethylsulphonium methyl sulphate is particularly effective compound; the presence of such compounds is said to improve the steps of shredding and filtering in the preparation of viscose from such pulps.

2,428,396. Container. Charles A. Southwick, Jr., assignor to Shellmar Products Corporation, Mount Vernon, Ohio. Filed Jan. 21, 1944. 4 claims. (Cl. 229-14). B.I.P.C. 18:214. A knockdown type of container.

2,428,440. Packaging method. Harry F. Waters, New York, N. Y. Filed Aug. 12, 1941. 10 claims. (Cl. 93-3). B.I.P.C. 18:214. A method is described for forming fluid-tight duplex containers. Pliofilm, Koroseal, Vinylite, or the like, either as such or as a layer coated on or laminated to paper and the like, can be used.

2,428,512. Apparatus for making wallboards. William G. Brubacher, Montreal, Canada. Filed May 10, 1944. 13 claims. (Cl. 92-54). B.I.P.C. 18:211. A vat and plunger are used for forming wallboards of low density and substantial thickness with a maximum insulating value.

2,428,555. Manufacture of magnesia insulation. Arthur B. Cummins and August M. Dinkfeld, assignors to Johns-Manville Corporation, New York, N. Y. Filed March 27, 1943. 10 claims. (Cl. 92-54). B.I.P.C. 18:207. An apparatus is specified for the continuous or semi-continuous formation and heat curing of magnesia insulation blocks.

### OCTOBER 14, 1947

2,428,837. Machine for making bags. Harvey R. Denton, assignor to Moist-R-Proof Container Co., San Francisco, Calif. Filed Oct. 16, 1943. 8 claims. (Cl. 93-18). B.I.P.C. 18:209.

2,428,843. Flame-resistant cellulosic material and process for producing same. Louis W. George and Carl Hamalainen, assignors to Secretary of Agriculture, United States of America. Filed Aug. 28, 1945. 4 claims. (Cl. 8-116.2). B.I.P.C. 18:216. The cellulosic material is reacted with a hot solution of 2, 4, 6-trichlorophenyl isocyanate in pyridine.

2,428,845. Carton closure. Reynolds Guyer, assignor to Waldorf Paper Products Company, St. Paul, Minn. Filed Jan. 19, 1944. 9 claims. (Cl. 229-31). B.I.P.C. 18:215. A container is designed for liquids to be frozen.

2,428,921. Suction device. Gilbert J. Scofield, Loudonville, N. Y. Filed Oct. 7, 1944. 4 claims. (Cl. 92-53). B.I.P.C. 18:211. The suction device is characterized by means for rotatably supporting the traveling element, such as the felt or wire.

2,428,951. Seal for containers. Lloyd L. Werth, assignor to Eastman Kodak Company, Rochester, N. Y. Filed April 15, 1944. 3 claims. (Cl. 229-49). B.I.P.C. 18:214. A method of sealing a container of the telescopic section type by the application of separate strips.

2,428,967. Barking drum drive. Newenham A. Gray, assignor to D. J. Murray Manufacturing Co., Wausau, Wis. Filed Dec. 27, 1944. 7 claims. (Cl. 144-208). B.I.P.C. 18:206. A method of mounting and driving a barking drum.

2,428,979. Structural element made from paper and like sheets. George May, assignor to Dufay-Chromex Limited, London, England. Filed Oct. 15, 1945. 10 claims. (Cl. 154-122). B.I.P.C. 18:207. Elements are formed from paper or board with adhesives suitable for doors, walls, partitions, or parts or fittings for aircraft, such as streamline tanks.

2,429,030. Methods of suppressing foam on paper stock. Francis G. Rawling, assignor to West Virginia Pulp and Paper Company, New York, N. Y. Filed Aug. 22, 1941. 4 claims. (Cl. 92-40). B.I.P.C. 18:208. Foam is prevented by the use of 0.5 to 2 pounds of sodium or other alkali metal stearate in 50 gallons of water, which is sprayed on the surface of the web.

2,429,102. Esters of lignin material. Harry F. Lewis and Friedrich E. Brauns, assignor to The Mead Corporation, Chillicothe, Ohio. Filed Feb. 13, 1943. 4 claims. (Cl. 260-124). B.I.P.C. 18:209. Monobasic aliphatic carboxylic acid esters of lignin material isolated from black liquor of a soda cook are prepared for use as mold lubricants and the like.

2,429,143. Manufacture of ethyl alcohol from sulphite residual liquor. George H. Tomlinson, assignor to Howard Smith Paper Mills Limited, Montreal, Canada. Filed May 20, 1943. 9 claims. (Cl. 195-39). B.I.P.C. 18:215. Waste liquor of the magnesium-base sulphite process is neutralized with magnesium hydroxide to a pH of 5.5-6.5, concentrated to above 29% solids, fermented in the usual manner, and then further concentrated and burned to recover the magnesium.

2,429,150. Petroleum wax coating composition. John C. Zimmer and Einar W. Carlson, assignors to Standard Oil Development Company, Linden, N. J. Filed Nov. 14, 1944. 12 claims. (Cl. 106-219). B.I.P.C. 18:207. A waterproofing composition contains 10-70% paraffin wax, 20-80% petrolatum, and from 1-8% of a lead salt of saturated fatty acids of 12-24 carbon atoms.

### OCTOBER 21, 1947

2,429,223. Pressure-sensitive adhesive tape. Warner Eustis and George R. Orrill, assignors to The Kendall Company, Boston, Mass. Filed Aug. 28, 1940. 5 claims. (Cl. 117-122). B.I.P.C. 18:206. A pressure-sensitive adhesive consists of a mixture of latex, rosin, hydrogenated methyl abietate, and casein.

2,429,271. Masking paper such as for lithography. Frank A. Marty, Flushing, N. Y. Filed Nov. 16, 1944. 6 claims. (Cl. 88-109). B.I.P.C. 18:213. A lithographic masking sheet is coated with a mixture of clay and casein or starch and then with a mixture of sodium silicate and an equalizer.

2,429,314. Apparatus for producing saturated fibrous bodies. Joshua H. Goldman, assignor to Fibre Products Laboratories, Inc., Newark, N. Y. Filed July 11, 1942. 6 claims. (Cl. 91-50). B.I.P.C. 18:213. The main feature of the saturating apparatus is an embossed roll which carries the material to be incorporated into the web.

2,429,331. Photoelectric apparatus for inspection of paper strips. Lawrence T. Sachtleben, assignor to Radio Corporation of America, New York, N. Y. Filed Dec. 8, 1943. 4 claims. (Cl. 88-14). B.I.P.C. 18:212. A photoelectric apparatus is described for detecting defects in paper.

2,429,338. Drum drier for web with radiant heater. Floyd W. Adams, assignor to Los Angeles Paper Box Factory, Los Angeles, Calif. Filed April 2, 1945. 3 claims. (Cl. 34-122). B.I.P.C. 18:210. A perforated drum is partially covered with an insulated hood, within which are suitable heating means.

2,429,505. Paper, cellulose, and the like bags. Arthur Ashman, assignor to E. S. & A. Robinson, Limited, Bristol, England. Filed Aug. 19, 1944. 2 claims. (Cl. 93-35). B.I.P.C. 18:212.

2,429,536. Means for erecting and positioning cartons. Rudolph W. Von Sydow, assignor to The Gardner-Richardson Company, Middletown, Ohio. Filed Oct. 27, 1943. 9 claims. (Cl. 93-53).

2,429,539. Paper treating method. Frederick P. Wood, assignor to Simplex Paper Corporation, Adrian, Mich. Filed May 26, 1945. 1 claim. (Cl. 154-33.05). B.I.P.C. 18:213. A method of creping paper around a drum which is provided with inclined circumferential grooves into which the paper is pressed.

2,429,540. Carton for powdery material. George M. Woodruff, assignor to The Procter & Gamble Company, Cincinnati, Ohio. Filed Sept. 23, 1943. 10 claims. (Cl. 229-16). B.I.P.C. 18:208. A blank for a dust-tight rectangular carton.

2,429,589. Manufacture of fuel gas from pulp mill wastes. Averill J. Wiley, Appleton, Wis. Filed Jan. 29, 1944. 3 claims. (Cl. 195-33). B.I.P.C. 18:215. A method of two-stage fermentation, the first stage being carried out at 3.5-4.5 and the second at 5.5-7.5; the end product consists of a gas with a large percentage of methane, which can be used as a fuel.

### OCTOBER 28, 1947

2,429,689. Suction drum press. Lloyd Hornbostel, assignor to Beloit Iron Works, Beloit, Wis. Filed March 11, 1944. 5 claims. (Cl. 92-53). B.I.P.C. 18:210.

2,429,706. Method for creping paper. Frederick P. Wood, assignor to Simplex Paper Corporation, Adrian, Mich. Filed Jan. 8, 1945. 3 claims. (Cl. 154-33.05). B.I.P.C. 18:276. Paper is creped by means of currently traveling crimper bars.

### NOVEMBER 4, 1947

2,429,986. Transferable silk screen stencil. Ernest C. Bowers, assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn. Filed July 17, 1944. 3 claims. (Cl. 41-33). B.I.P.C. 18:278. A stencil film comprises a paper backing sheet, a water-soluble adhesive coating, and a film removably supported by the adhesive coating.

2,430,017. Mildewproofing textiles. Alva L. Houck, assignor to Röhm & Haas Company, Philadelphia, Pa. Filed March 8, 1945. 20 claims. (Cl. 117-138.5). B.I.P.C. 18:277. The mildewproofing agent is a pentahalophenol ester of a carboxylic acid, such as the acetate, ethylcarbonate, hexoate, laurate, benzoate, etc.

2,430,029. Splitting tall oil soaps. Arthur Pollak and Randall Hastings, assignors to West Virginia Pulp and Paper Company, New York, N. Y. Filed April 27, 1944. 14 claims. Cl. 260-97.5). B.I.P.C. 18:216. The tall oil soaps are decomposed in aqueous solution by sulphur dioxide until the mixture is brought below pH 5, in the presence of sodium bisulphite in excess of that formed in the occurring reaction.

2,430,135. Pulp washer. John Neumann, assignor to Alpha Cellulose Corporation, Van Wert, Ohio. Filed Oct. 20, 1943. 1 claim. B.I.P.C. 18:279. The washer is designed primarily for deinked stock.

2,430,166. Display cabinet. Bernard Fish, Cecil E. Taylor, and John C. Van Cleaf, assignors to Gaylord Container Corporation, St. Louis, Mo. Filed Jan. 8, 1945. 11 claims. (Cl. 211-130). B.I.P.C. 18:274. A display cabinet of corrugated board.

2,430,280. Apparatus for producing tea, coffee, or similar bags. Lewis B. Eaton and Robert W. Vergobbi, assignors to Pneumatic Scale Corporation, Limited, Quincy, Mass. Filed Aug. 12, 1942. 8 claims. (Cl. 93-3). B.I.P.C. 18:276.

2,430,302. Carrier for bottles and other articles. William A. Ringler, assignor to The Gardner-Richardson Company, Middletown, Ohio. Filed Oct. 4, 1944. 8 claims. (Cl. 24-45). B.I.P.C. 18:275.

2,430,355. Production of useful products by micro-organisms acting upon prepared sulphite waste liquor. Joseph L. McCarthy, Seattle, Wash. Filed June 7, 1944. 12 claims. (Cl. 195-84). B.I.P.C. 18:279. Sulphite waste liquor is freed of sulphur dioxide by countercurrent treatment with steam at a temperature of about 100° C. until the pH is about 3.0-5.0.

2,430,386. Printed and coated fibrous material. James B. Butler, Dublin, Eire. Filed July 24, 1944. 7 claims. (Cl. 117-15). B.I.P.C. 18:277. Printed or written documents are passed through a solution of 6 parts of vinyl acetate, 2 parts of toluene, and 28 parts of industrial ethyl alcohol. The treated product can be written upon with pencil, ink, chalk, and the like, and the markings can be removed repeatedly.

2,430,411. Manufacture of cementitious pipe. Ernest W. Rembert, assignor to Johns-Manville Corporation, New York, N. Y. Filed Sept. 4, 1942. 5 claims. (Cl. 92-67). B.I.P.C. 18:210. A method is given for loosening cementitious pipe and the like from forming mandrels or molds and for handling the pipe through the subsequent preliminary curing operations.

### November 11, 1947

2,430,459. Laminated sheet heat-sealable container. Robert A. Farrell and Charley L. Wagner, assignors to Marathon Corporation, Rothschild, Wis. Filed Jan. 22, 1944. 7 claims. (Cl. 229-55).

2,430,609. Display container. Reynolds Guyer, assignor to Waldorf Paper Products Company, St. Paul, Minn. Filed Jan. 24, 1944. 5 claims. (Cl. 229-30). B.I.P.C. 18:275. A double-wall display tray capable of protecting and supporting fragile articles.

2,430,160. Carton. Reynolds Guyer, assignor to Waldorf Paper Products Company, St. Paul, Minn. Filed April 8, 1944. 10 claims. (Cl. 229-14). B.I.P.C. 18:276. A carton suitable for packaging frozen foods and the like.

2,430,626. Postal card. Gosbert Weinschenk, Chicago, Ill. Filed Aug. 28, 1944. 2 claims. (Cl. 229-92.8). A postal card for typewriter use.

2,430,710. Textile cone. Charles K. Dunlap, Hartsville, S. C., assignor to Sonoco Products Company. Filed Feb. 11, 1946. 6 claims. (Cl. 242-122). B.I.P.C. 18:274. The thread-retaining properties of a textile cone are obtained by investing the winding surface with circumferential bands of discrete extending fibers.

2,430,726. Heat sealing moistureproofing coatings. James A. Mitchell, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Feb. 14, 1942. 4 claims. (Cl. 117-146). B.I.P.C. 18:275. Color formation in moistureproofing coatings employing iratol (a resin-like material made by treating 2-naphthol with rubber) as the cementing agent can be inhibited or prevented by the incorporation of *N,N,N',N'*-tetraethyl-4, 4'-diaminodiphenylmethane and similar substances.

2,430,755. Method of making collapsed boxes. Samuel Bergstein, assignor to Robert M. Bergstein and Frank D. Bergstein, Cincinnati, Ohio, as trustees. Filed May 24, 1944. 4 claims. (Cl. 93-49). B.I.P.C. 18:276. Method of making one-piece knocked-down boxes.

### November 18, 1947

2,430,967. Sealing cap for containers. Arthur B. Walters, Denver, Colo. Filed Aug. 14, 1945. 1 claim. (Cl. 229-5.5). B.I.P.C. 18:278. The cap consists of a disk of cardboard or similar material; the surface is indented or scored, the scores rendering the outer edge of the disk flexible in one direction.

2,431,009. Foam control in brown stock washing. Frank W. Young, Melfield, Mass. Filed Oct. 9, 1943. 5 claims. (Cl. 252-321). B.I.P.C. 18:275. This is a continuation of U. S. patent 2,352,304 (June 27, 1944). A stream of liquid and foam is introduced into a conduit and a second stream of liquid and foam at high velocity is directed into intimate contact with the first stream to disrupt the bubbles of foam into air and liquid.

2,431,258. Coated abrasive article and method of manufacturing the same. Henry P. Kirchner, assignor to The Carborundum Company, Niagara Falls, N. Y. Filed Feb. 5, 1946. 12 claims. (Cl. 51-195). B.I.P.C. 18:278. An abrasive disk has a backing of vulcanized fiber.

### November 25, 1947

2,431,365. Machine for opening collapsed tubular box blanks. John Bousquet, assignor to Beech-Nut Packing Company, Canajoharie, N. Y. Filed Jan. 12, 1946. 3 claims. (Cl. 93-53).

2,431,419. Recovery of vanillic acid. Irwin A. Pearl, assignor to Sulphite Products Corporation, Appleton, Wis. Filed May 17, 1944. 2 claims. (Cl. 260-525). Crude vanillic acid obtained from the degradation of a lignin substance is purified by precipitation with neutral lead acetate.

2,431,535. Folding box with slotted divider members. Harold G. Bergstrom, New Rochelle, N. Y. Filed Oct. 16, 1945. 1 claim. (Cl. 229-28).

2,431,537. Method and apparatus for making end closures for tubular containers. Boris Bogoslowsky, Jackson Heights, N. Y. Filed Jan. 25, 1945. 6 claims. (Cl. 93-36.8).

### December 2, 1947

2,431,680. Infusion package manufacture. Louis Barnett, assignor to National Urn Bag Co., Inc., Long Island City, N. Y. Filed May 26, 1943. 11 claims. (Cl. 99-77.1). A method of slitting the flange of the package to permit the introduction of the handle end of a teaspoon.

2,431,697. Collapsible container and method of making the same. Frank La Grua, Stonington, Conn. Filed June 29, 1944. 9 claims. (Cl. 93-39.1). A collapsed flat container blank.

2,431,720. Method of making pressed decorative lignocellulosic products. Grant S. Willey, assignor to United States Gypsum Company, Chicago, Ill. Filed Oct. 23, 1943. 14 claims. (Cl. 18-47.5). Two boards are separated by a sheet of paper, glassine, mica powder, or the like and subjected to pressure to give a decorative surface on one side and a smooth surface on the other.

2,431,744. Dispensing slide closure for paperboard containers. Walter P. Fessenden, assignor to National Folding Box Company, Incorporated, Chicago, Ill. Filed July 19, 1943. 12 claims. (Cl. 229-17).

2,431,775. Packing device. Albert L. Sherwood, assignor to Sutherland Paper Company, Kalamazoo, Mich. Filed Jan. 19, 1945. 10 claims. (Cl. 226-17). A packing device for containers.

2,431,786. Dispensing container. Marshall I. Williamson, assignor to National Folding Box Company, Incorporated, New Haven, Conn. Filed July 29, 1943. 7 claims. (Cl. 229-17).

2,431,856. Combined roller and spool mounting for paper machines. John A. Ziegler, Camas, Wash. Filed Jan. 3, 1945. 4 claims. (Cl. 308-20). A bearing support for a felt-supporting roller.

2,431,932. Fiberboard bottle carrier having partition members. Maynard G. Hall, assignor to Empire Box Corporation, Garfield, N. J. Filed March 7, 1945. 6 claims. (Cl. 229-52).

2,432,002. Concrete form lining and method of manufacture. Emile Frederick, Jr., and Wallace Waterfall, assignors to The Celotex Corporation, Chicago, Ill. Filed Oct. 20, 1941. 16 claims. (Cl. 154-45.9). The lining board has a felted sheet carrying a surface tension-reducing agent as one side and a water-resistant layer as the other side.

2,432,052. Cardboard carton and liner therefor. Harry F. Waters, New York, N. Y. Filed Dec. 5, 1941. 1 claim. (Cl. 229-14). A container having an impermeable, oversize liner forming a bag.

2,432,053. Continuous method of forming flat-folded liner cartons. Harry F. Waters, New York, N. Y. Filed Dec. 18, 1941. 1 claim. (Cl. 93-45). A method of forming flat-folded packages having envelope liners.

2,432,054. Method of continuously forming fluid-tight packages. Harry F. Waters, New York, N. Y. Filed Dec. 18, 1941. 2 claims. (Cl. 93-36.01).

2,432,074. Coated paper and method of producing the same. Harley Y. Jennings, assignor to Copeman Laboratories Company, Flint, Mich. Filed Aug. 2, 1940. 3 claims. (Cl. 117-122). A method of dispensing sheet rubber which comprises coating one side of a strip of paper with an aqueous dispersion of rubber so that the coating will temporarily cohere to itself but not to the backing and rolling the resulting laminated sheet to exclude air.

2,432,075. Roll of sheet material with cohesive coating. Harley Y. Jennings, assignor to Copeman Laboratories Company, Flint, Mich. Filed Nov. 4, 1943. 1 claim. (Cl. 206-59). A rolled strip of imperforate sheet material, one surface of which is coated with a latex membrane.

### December 9, 1947

2,432,122. Method of folding and sealing sheet material. Edward A. Pardee, assignor to Shellmar Products Corporation, Mount Vernon, Ohio. Filed Jan. 21, 1944. 4 claims. (Cl. 93-36.8). The invention covers a square liner or bag having a square flat bottom which can be transformed to a round flat bottom and the side walls of which can be transformed from square to cylindrical shape in cross section.

2,432,126. Method of improving the processing of refined chemical pulp into viscose. Paul H. Schlosser and Kenneth R. Gray, assignors to Rayonier Incorporated, Shelton, Wash. Filed Oct. 6, 1943. 16 claims. (Cl. 260-217). Pulps having an ether extract of 0.15% or less are improved for the manufacture of viscose by the addition of a so-called amine oxide to the extent of 0.01-0.2% based on the bone-dry pulp. An effective compound is lauryldimethylamine oxide; other compounds are listed.

2,432,127. Method of improving the processing of refined chemical pulp into viscose. Paul H. Schlosser and Kenneth R. Gray, assignors to Rayonier Incorporated, Shelton, Wash. Filed Oct. 16, 1943. 25 claims. (Cl. 260-217). This is similar to the preceding patent, the compound incorporated being a primary, secondary, or tertiary amine, an alkyl alkanolamine, the alkyl ether of an alkanolamine, alkyl cycloalkyl amine, polyethylene polyamines, imidazolines, etc.

2,432,128. Method of improving the processing of refined chemical pulp into viscose. Paul H. Schlosser and Kenneth R. Gray, assignors to Rayonier Incorporated, Shelton, Wash. Filed Oct. 16, 1943. 16 claims. (Cl. 260-217). This is similar to the preceding patents, the compound being incorporated being a hydroxyalkyl amide which contains 2-5 carbon atoms, 1-3 hydroxyl groups, and a ratio of hydroxy groups to carbon atoms of at least 0.4. An example is the amides formed from the acids of coconut oil and mono- or diethanolamine.

2,432,129. Method of improving the processing of refined chemical pulp into viscose. Paul H. Schlosser, Kenneth R. Gray, and Louis S. Keyser, assignors to Rayonier Incorporated, Shelton, Wash. Filed Oct. 16, 1943. 14 claims. (Cl. 260-217). The compounds covered in this patent are the various types of alcohols; the most effective are 7-ethyl-2-methyl-4-hendecanol, lauryl alcohol, and octyl alcohol.

2,432,195. Starch modification process. Donald W. Hansen, assignor to A. E. Staley Manufacturing Company, Decatur, Ill. Filed March 9, 1942. 11 claims. (Cl. 127-33). Cornstarch in water at 52° is treated with sulphuric acid and chromium trioxide for the preparation of thin boiling starches.

2,432,238. Pulsating screen. Walter J. Hartwig, assignor to D. J. Murray Manufacturing Co., Wausau, Wis. Filed Sept. 15, 1944. 2 claims. (Cl. 92-32).

2,432,332. Process of facilitating the separation of rosin from tall oil. Robert C. Palmer, assignor to Newport Industries, Inc., Pensacola, Fla. Filed Sept. 7, 1944. 8 claims. (Cl. 260-97.5). Tall oil is treated with glycerol in sufficient quantity to react only with the fatty acid fraction and the resulting product in petroleum naphtha is passed through fuller's earth; the increase in rosin acids is from 37.5 to 68%.

2,432,333. Process of increasing the rosin-to-fatty acid ratio in mixtures of rosin and fatty acids. Robert C. Palmer and Anthony F. Oliver, assignors to Newport Industries, Inc., Pensacola, Fla. Filed Nov. 30, 1946. 7 claims. (Cl. 260-97.5). This is an extension of U. S. patent 2,280,842 (April 28, 1942). Crude tall oil in petroleum naphtha (10-25% soln.) is passed through fuller's earth or other decolorizing clay, which removes the sterols; the recovered tall oil is distilled and the product in petroleum naphtha is again passed through fuller's earth.

2,432,481. Bottle carrying carton. Joseph L. Lyons, Jr., assignor to Empire Box Corporation, Garfield, N. J. Filed Feb. 7, 1942. 15 claims. (Cl. 224-45). A collapsible bottle carrier formed from a cardboard blank or the like.

### December 16, 1947

2,432,501. Foldable blank cellular spacer plug for receptacles. Albert P. D. Belanger, Alton, Ill. Filed Feb. 5, 1944. 9 claims. (Cl. 229-31). A spacer plug device of hexagonal shape made from a single piece of strong stiff sheet material folded into the shape of a cup.

2,432,524. Accordion folded paper garment bag. Arthur C. Johnston, Minneapolis, Minn. Filed Dec. 4, 1944. 1 claim. (Cl. 206-7).

2,432,542. Method of producing coated cellulosic sheets. Gilbert Pitzl, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed July 13, 1944. 5 claims. (Cl. 117-145). A nonfibrous cellulosic material is treated with a melamine-formaldehyde resin.

2,432,575. Laminating process. Arthur E. King, assignor to E. I. du Pont de Nemours & Company, Wilmington, Del. Filed Feb. 10, 1944. 7 claims. (Cl. 154-136). A process of laminating a plurality of water-sensitive nonfibrous sheets.

2,432,752. Method of forming laminated resin impregnated stock sheets. Harry C. Gray, assignor to Continental Can Company, Inc., New York, N. Y. Filed Aug. 19, 1944. 5 claims. (Cl. 154-125).

2,432,968. Multiwall container. Richard W. Lahey, assignor to American Cyanamid Company, New York, N. Y. Filed March 14, 1944. 5 claims. (Cl. 229-55).

### December 23, 1947

2,432,993. Method of indenting felt paper. Arthur L. Jennings, assignor to Armstrong Cork Company, Lancaster, Pa. Filed Dec. 30, 1943. 6 claims. (Cl. 101-32). In indenting paper with an initial density of 9-15 pounds and containing 0.5-3.5 pounds per cubic foot of the dried residue of rubber latex, moisture is applied to the upper surface before indenting and the sheet is indented in limited areas only at 212° F. or above.

2,433,121. Drier drum. Lloyd Hornbostel, assignor to Beloit Iron Works, Beloit, Wis. Filed Jan. 22, 1944. 3 claims. (Cl. 34-124). A cylindrical steel wall with an air-hardening alloy exterior coating.

2,433,122. Felt and drum assembly for drying webs. Lloyd Hornbostel, assignor to Beloit Iron Works, Beloit, Wis. Filed March 20, 1944. 1 claim. (Cl. 34-111).

2,433,227. Treatment of lignin substances. Harry F. Lewis and Irwin A. Pearl, assignors to Sulphite Products Corporation, Appleton, Wis. Filed May 17, 1944. 1 claim. (Cl. 260-521). In the oxidation of lignin in alkaline solution with mercuric oxide, the purification step involved acidification of the alkaline mixture with sulphur dioxide.

2,433,285. Starch for tub sizing paper. John C. Marrone, Woodbury, Conn., assignor to A. M. Meincke & Son, Inc. Filed April 21, 1944. 5 claims. (Cl. 127-32). Cold swelling starch is dispersed in cold water and heated to about 185° F. for five minutes.



2,433,412. Apparatus for forming molded bodies on articles. Gardiner C. Wilson, assignor to Armstrong Cork Company, Lancaster, Pa. Filed July 30, 1943. 8 claims. (Cl. 18-36).

2,433,490. Pulping machine. Stephen G. Stapley, Thorold, and William Subart, Merritton, Canada. Filed Sept. 9, 1946. 14 claims. (Cl. 92-26). A means for distintegrating pulp stock.

2,433,515. Method of making photographic paper. Edward Jahoda, assignor to H. P. Andrews Paper Company, New York, N. Y. Filed April 18, 1945. 3 claims. (Cl. 117-34). A penetration-restricting sizing is applied to the paper, followed by precipitating a silica coating from a colloidal liquid dispersion of silica onto the surface of the paper.

2,433,591. Apparatus for smelting sulphur. Ernest V. Bierce, Pasadena, Calif. Filed Nov. 4, 1944. 6 claims. (Cl. 23-280).

2,433,676. Carrier for bottles and the like. William A. Ringler, assignor to The Gardner-Richardson Company, Middletown, Ohio. Filed April 15, 1944. 9 claims. (Cl. 229-52).

2,433,701. Apparatus for distening prefabricated box covers and applying the same to filled boxes. William F. Linstedt, Freeport, Ill., assignor to Kraft Foods Company. Filed Nov. 26, 1943. 18 claims. (Cl. 93-55.1).

2,433,814. Pulpstone. Norman F. Holter, assignor to Norton Company, Worcester, Mass. Filed May 18, 1946. 4 claims. (Cl. 51-206.4).

## TAPPI and Superintendents Join in Kalamazoo Meeting

Dr. Lemoyne Snyder, medico-legal director for the Michigan State Police was speaker at the 13th annual joint meeting of the Kalamazoo Valley section of the Technical Association of the Pulp and Paper Industry and the Michigan division of the American Pulp and Paper Mill Superintendents Association. His subject was "Why You Should Worry About Murder."

The hotel lobby was jammed with visiting groups as one of the largest crowds in the history of the meetings held preliminary get-togethers.

Officially it was the 13th such event. But to keep the unofficial record straight old timers declared it was at least the 27th such joint meeting. Heading the two associations were William Astle, Michigan Paper Company, of the Superintendents and L. Memms of TAPPI. Dinner music was furnished by Charlie Fisher's orchestra.

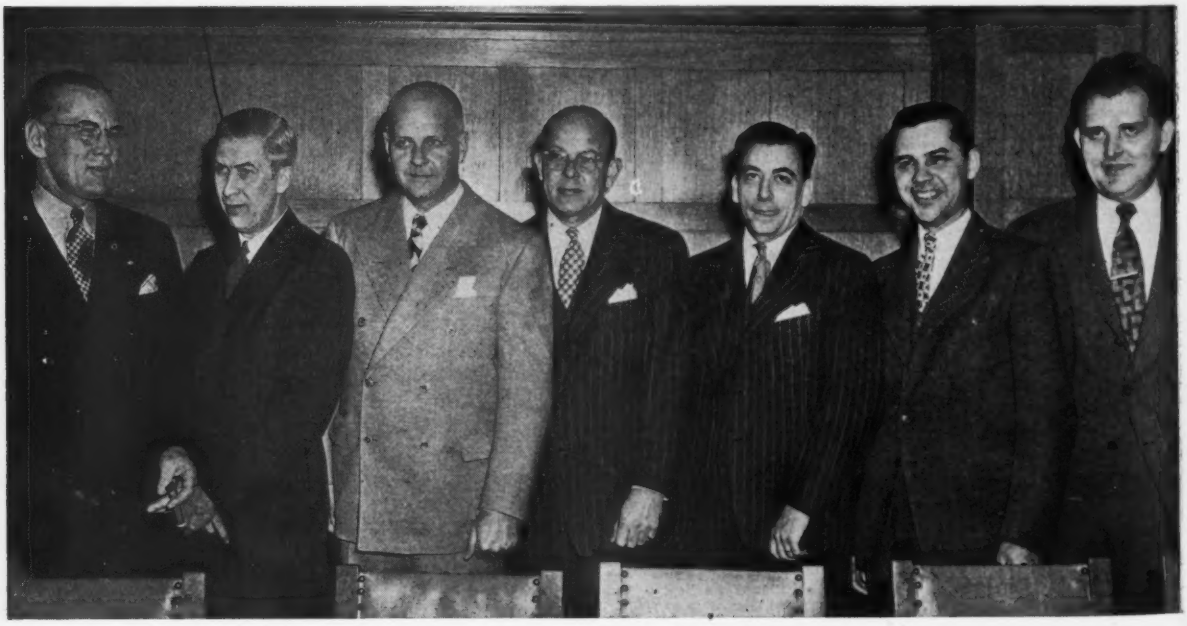
E. W. Wessling, vicar of Zion church, pronounced the invocation. Astle, after welcoming remarks, introduced D. T. Quirk, mayor of Ypsilanti and vice president of the Peninsular Paper Company, as toastmaster.

Raymond T. Bennett, president of the superintendents association, spoke briefly upon his introduction, stressing the need for closer co-operation in local associations for the solution of their many problems. He then announced that at a meeting of trustees Harry Weston, formerly with the Paper Industry and Paper World, trade magazine of Chicago, had been engaged as associate secretary and treasurer for the national association.

K. P. Geohegan, of the Aetna Paper Company, Dayton, Ohio, national Tappi committeeman, reported from the national president that the organization did not want to function as a closed technical group solely, but was for paper mill men interested in the technical direction and for the betterment of the entire industry.

Others introduced included the following officers of the Valley section of Tappi: Mimms, Chairman; Paul W. Bartholomew, Hawthorne Paper Company, vice chairman; J. J. Harrison, Michigan Carton Company, Battle Creek, treasurer; and Stephen Kukolich, Lee Paper Company, Vicksburg, secretary; and the officers of the Michigan division of superintendents, W. F. Hathaway, KVP, treasurer; and O. W. Callighan, Edgar Brothers Clay Company, secretary. Herbert M. Johnson, Allied Paper Mills, vice chairman, was not present. Glenn Sutton, Sutherland Paper Company, was introduced as fifth vice president of the national superintendent's association.

In introducing the paper mill men to the imminence of murder, Dr. Snyder cited the fact that out of 1,000 deaths, one in five are under circumstances as to call for scientific investigation. One hundred of the thousand are due to obvious violence, and of that 100, five are murders. In 100 other deaths the causes are obscure.



R. Bennett W. Astle L. Snyder D. Quirk L. Mimms P. Bartholomew J. J. Harrison.